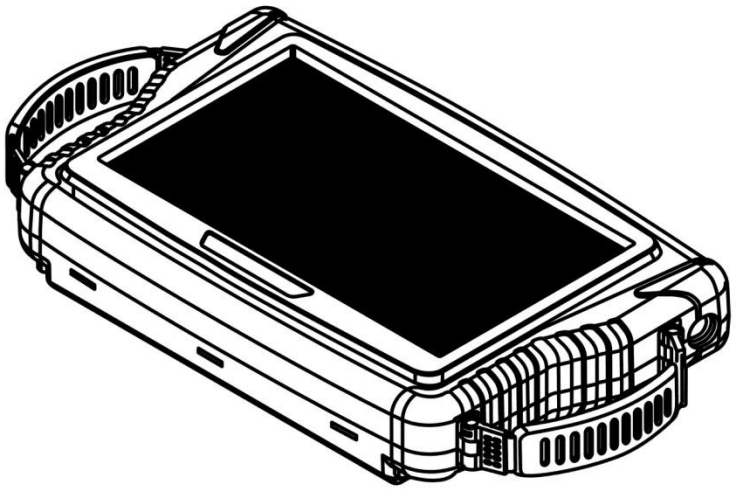
Win Based Automotive Diagnostic System

Hand-Handled Diagnostic Solution

HANASCAN 10



Automotive Diagnostic Solutions

Hanatech Co.,Ltd.

Chapter 1 Safety and Warranty

Safety Instructions	-------	1-3
Safety Precautions	-------	1-4
Warranty Service	-------	1-6

Safety and Warranty

About this Manual

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Using this Manual

It is recommended that the user become familiar with the operating procedures, terminologies and information contained within this user's manual. This will help to increase the user's effectiveness with this equipment.

Vehicle system familiarity

While this equipment provides very powerful functions with extensive vehicle coverage, it cannot replace knowledge and skill. To get the most out of this equipment, a full understanding of vehicle systems is required. It is recommended that the equipment be used in conjunction with the original service manual for the vehicle being tested.

The equipment is designed for use by trained service personnel and this manual assumes that the service technician who is going to use this equipment has a familiarity with vehicle electronic control systems, however, the latest service manuals and bulletins should always be referenced before using this equipment.

I. SAFETY INSTRUCITONS

Thank you for purchasing HANASCAN 70 scanners. To get the maximum performance of the equipment, please carefully read this manual first, and keep it at hand.

On delivery inspection

When the equipment is delivered, a check should be made for any damaged or missing components. If the unit is damaged or fails to operate according to the specifications, contact your local distributor or the manufacturer, Hanatech Co., Ltd., Hana bldg., 80-1 Songjung-dong, Gumi-shi, Kyung-buk Republic of Korea 730-913. In the unlikely event the equipment requires shipping back to the manufacturer, please use the original packing material.

Safety symbols

The following symbols are used throughout this manual:

⚠ DANGER	This mark means that dangerous consequences may arise, with the possibility of death or serious injury to the user, if the machine is handled incorrectly.
⚠ WARNING	This mark means dangerous consequences may arise, with the possibility of somewhat serious injury to the user and or damage to the machine and facilities, if the equipment is handheld incorrectly.

SYMBOL	Description
	This symbol is affixed to locations on the equipment where the operator should consult corresponding topics in this manual (which are also marked with the ⚠ symbol) before using relevant functions of the equipment. In the manual, this symbol indicates explanations that are particularly important that the user is expected to read the manual before using the equipment.
	This symbol represents DC (Direct Current)

Safety guideline

In order to ensure proper operation and satisfactory performance, observe the cautions listed below.

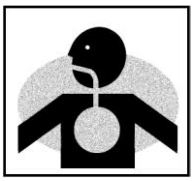
⚠ DANGER
This equipment is designed to comply with IEC61010-1 safety standards, and has been tested for safety prior to shipment. Excessive high voltage measurement or improper operation could result in personal injury, as well as damage to the equipment or the vehicle. Please read this manual carefully and be sure that you understand its contents before using the equipment. The manufacturer disclaims all responsibility for any accident except for that resulting due to defect in its product.

⚠ WARNING	
	For safety reasons, this equipment should not be used to measure circuits carrying more than 30Vrms or 42.4V peak. To avoid electrical accident that could result in injury or death, do not measure voltage in excess of these limitations. Maximum rated measurable voltage is 30Vrms or 42.4V peak.

II. SAFETY PRECAUTIONS

DANGER

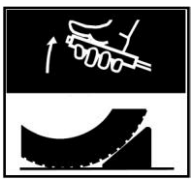
When an engine is running, keep the workshop area WELL VENTILATED or attach a building exhaust removal system to the engine exhaust system. Engines produce carbon monoxide, an odorless and poisonous gas that causes slower reaction time and may lead to serious injury or death.



WARNING

Brakes and wheel blocks

Apply the hand brake and block the wheels before using the test equipment. It is highly recommended to block the wheels on front-

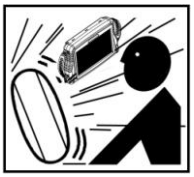


wheel drive vehicles because the hand brake does not hold the driving wheels.

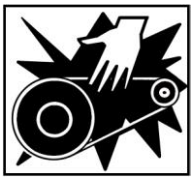
Drive Test

Do not drive the vehicle and operate the test equipment at the same time. Any distraction may cause an accident. Have one person operate the test equipment while the other person drives the vehicle. Never place the test equipment in front of you when driving the vehicle because the test equipment may hit your body and cause serious injury when the air bag inflates.

Do not try to test the SRS air bag system while driving the vehicle as unintended airbag inflation may result .



Engine Compartment



Maintain sufficient clearance between moving components or belts while using the test equipment in the engine compartment. Moving components and belts may catch loose clothing, test cables or a part of your body and cause damage or personal injury.

Electrical Components

Always turn the ignition key OFF when connecting or disconnecting electrical components unless otherwise instructed.

Vehicle Battery

equipments are designed to prevent damage from reverse polarity battery cable connection, however, it is always highly recommended to always ensure correct polarity terminal connection.

Never lay the test equipment on vehicle battery. You may short the terminals and may cause damage to your body, the test equipment or the battery.

To avoid damaging the test equipment or displaying false data, make sure the vehicle

battery is fully charged and the connections to the electronic control module are clean and tight.

The warning messages above and the safety messages contained hereinafter cover situations Hanatech is aware of. Hanatech cannot know, evaluate or advise you as to all of the possible hazards. You must make sure that any conditions or service procedures encountered do not jeopardize your personal safety.

III. WARRANTY SERVICE

Warranty Period

In principle, HANASCAN 70 products are warranted to the consumer to be free of defects in material and workmanship for the period of 3 years after the date of purchase.

If the product is found defective during this period, the product can be returned to Hanatech and will be repaired or replaced free of charge.

Freight and repair Cost

For the repair of head unit, Hanatech covers the freight cost for the service during one year from the date of purchase, and you can send the troubled unit to your local distributor without having to pay the freight cost. You should consult with your local distributor about the validity of remaining warranty period before sending the unit.

For the remaining two years, you are liable for any international cost incurred. Repair or replacement will be provided free of charge.

When the warranty period is expired after three years, the customer must pay the round trip freight and the repair or replacement cost.

Upon delivery

Hanatech inspects all the ordered product parts and components are included in the package before shipment, and includes the original copy of pre-shipment inspection report in the box. As soon as the product is delivered to you, please ensure everything you ordered is properly checked and included referring to the pre-shipment inspection report.

If there is anything missing or damaged, you must notify the local distributor immediately within 3 working days from the delivery date for free of charge replacement of the parts.

In case of trouble

If you encounter any malfunction or trouble with the equipment, please refer to the Trouble Shooting chapter in this manual. If the problem cannot be solved, please contact your local distributor for assistance. For early identification of a fault or error, your local distributor will require the following details:

1. Symptom of problem you are experiencing
2. Serial number of the head unit
3. Vehicle information: Which specific car were you testing when the problem occurred – Model name, Model year and system ID number if available (for Mitsubishi, Subaru and Suzuki only: Refer to Japanese car chapter for details)

Warranty Void

Even in the effective warranty period, if the problem is found to be caused by any of the followings, Hanatech charges the cost for round trip freight and actual cost for the service to the customer, and the shipment back to the customer will be suspended until the customer's payment is duly made

1. Evidence of improper use or application of the product ignoring the cautions and warnings stipulated in the user's manual

2. Intentional damage or modifications to the product or user's attempt to repair without proper authorization

3. Any damage caused by Force Majeure including war and natural disaster

4. Loss of time, inconvenience and other consequential damage or loss

Warranty void seal

In addition to the above mentioned warranty void conditions, warranty service is not provided in case the warranty void seal is broken or removed.

If you remove the head unit safety boot, you will see a yellow round sticker covering one of the screw holes in the back. Please be careful not to break this seal and never try to open the head unit without direct authorization from the manufacturer.

Bought in other countries

Only the products properly supplied by the contracted authorized local distributors are

recognizable for free of charge warranty service. Any equipment bought outside the contracted national territory of your local distributor will be charged for service.

FCC RF INTERFERENCE STATEMENT

Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

The equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does not cause harmful interference to radio or television reception which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures;

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected

Caution

Changes or modification not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS; (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE. AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

Chapter 2 Specification and Parts

Specification	-------	2-2
Part List	-------	2-3

Specification and Parts

1. Specification

1) Hardware & Protocol

Item	Specification		ETC
Main Controller	Intel Atom	N270 1.6GHz	
Interface	USB 2.0	2EA	PC Interface
	LAN Intel 82574L	10/100/1000 Mbit	
	Video Out	Up to QXGA(2048X1536)	
	Wireless	Bluetooth 2.1 + EDR & Wi-Fi	802.11 b,g,n
	Indicator	Status LED x 2EA	Power.Charge/Full
Power	Standard	15VDC, 0.9A	
	Min-Max range	12~32VDC	
	Battery	Li-ion 5200mAh echargeable	
Protocol	OBD-I	Supported	
	OBD-II	ISO 9141-2	
		ISO14230(KWP)	
		J1850(PWM & VPW)	
		CAN 2.0A/2.0B (High Speed, Middle Speed, Single Wire)	

2) Environmental

Operating Temperature : 0 ~ 85℃

Max Relative Humidity : 85% and less

3) Dimension & Weight

Horizontal 312mm

Vertical 198mm

Thickness 60mm

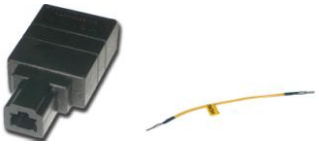
Weight 2.1Kg

All specifications are subject to change without notice for the purpose of product and quality improvement

2. Part List

Section	Name	Qn'ty	Image	Part Number	Note
Diagnostic Module	Head Unit	1			Impact Resistance ABS Resin
	Protector	1			Soft PVC Resin
Carrying Case	Carrying Case	1		3003-0003	Provides convenient transportation and the protection of the head unit and other components from outer physical impact during the transportation and storage
Power Cable & Adaptor	Cigarette Lighter Cable	1		3000-0004	Supplies power to the head unit from the cigarette lighter socket. LED lights on both ends turn ON when power is properly supplied
Diagnose Cable & Adaptor	Extra fuses & Contact Plug	1		3008-0003	For the replacement of the fuse located inside the cigarette lighter power cable. You can also replace it with a fuse of which rated current is 2 Ampere or less.
	Extra fuses & Contact Plug Battery Cable	1 1		3008-0003 3000-0005	A set of spare parts for replacement when the original parts are lost Power cable 2 – Vehicle Battery
	AC-DC Power Adaptor(12V)	1			Used for difficulty of Power supply from Vehicle Used for External Power during on registration of Product through F/W upgrade or PC

	Main Data Link	1		3001-0001	Connects vehicle side DLC and HANASCAN 70 head unit for data transmission
	OBD2 Standard	1		3001-0010	Used for all OBD generation 2 and EOBD compatible vehicles.
	Mitsubishi and Hyundai 12Pin	1		3001-0001	Used for the communication with Mitsubishi and Hyundai cars of OBD generation 1
	Mitsubishi 12+16pin dual headed	1		3001-0030	Used for the communication with Mitsubishi cars with both of 12-pin OBD1 and 16-pin OBD2 adapters on-board.
	GM Daewoo 12Pin	1		3001-0002	Used for the communication with Daewoo cars of OBD generation 1.
	KIA (Old Model) 6Pin	1		3001-0003	Used for the communication with old Kia cars of OBD generation 1.
	KIA 20Pin	1		3001-0004	Used for the communication with Kia cars of OBD generation 1. DTC read & erase and data stream functions are available for the cars with this type of adapter. Refer to the following warning message.
	Toyota / Lexus 17Pin Rectangular	1		3001-0011	Used for the diagnosis of Toyota and Lexus of OBD generation 1.

	Mazda 17Pin Adapter	1		3001-0013	Used for the communication with Mazda cars of OBD generation 1.
	Toyota/Lexus 17Pin Semi-circular	1		3001-0012	Also used for the diagnosis of Toyota and Lexus of OBD generation 1.
	Nissan/ Samsung 14Pin	1		3001-0006	Used for the Communication with Nissan cars of OBD generation 1 and all Samsung passenger cars.
	Ssangyong 14Pin	1		3001-0007	Used for old Ssangyong cars of OBD generation 1. Vehicle side DLC is located in the engine room
	Ssangyong 20Pin	1		3001-0005	Used for Ssangyong cars of OBD generation 1. Vehicle side DLC is located in the engine compartment. Refer to the warning above.
	Honda 3 Pin Adapter and 2 Pin Jump Wire	1X1		3-pin: 3001-0014, 2-pin wire: 3001-0023	3-pin adapter is used for the diagnosis of Honda cars of OBD generation 1 that support DTC read and erase as well as data stream. Older Honda cars have 2-pin DLC that supports DTC read only. The jump wire is used for these older cars to bridge the 2-pin DLC terminals. The vehicle side DLC is generally located under the dashboard or the glove box.
	Subaru 9Pin	1		3001-0022	Used for the communication with Subaru cars of OBD generation 1.

	Holden 6 Pin	1		3001-0023	Used for Australian Holden of OBD generation 1.
	GM Opel 10Pin	1		3001-0019	Used for the communication with Opel cars of OBD generation 1.
	Ford 20 Pin	1		3001-0020	Used for the communication with Ford cars of OBD generation 1, including Australian and British Fords.
	Ford EEC-IV	1		3001-0017	Used for the communication with Australian Ford cars of OBD generation 1,
	BMW 20Pin (Optional)	1		3001-0016	Used for the communication with BMW cars. (Can be supplied as an optional part)
	VAG 2X2Pin (Optional)	1		3001-0029	Used for the communication with the OBD1 generation cars of Volkswagen / Audi Group including SEAT and Skoda. (Can be supplied as an optional part)
	Mercedes Benz 38Pin (Optional)	1		3001-0015	Used for the communication with OBD1 generation Mercedes Benz cars . Applied with the models e.g) C202, CLK208, E210, E124, S140, SL129, SLK170, G463, G461. (Can be supplied as an optional part)

	Mercedes Benz 4Pin (Optional)	1		3001-0009	Used for the communication with early 1990's or earlier model year Mercedes Benz cars e.g) C201, E124, S126, SL107, G463 (Red: Battery +, Gray: K Line,, Yellow : Ignition check, Black: Ground) (Can be supplied as an optional part)
	Bore Scope	1			Internal such as invisible Intake Air Manifold etc. shall be observed by naked eyes as multi-purpose borescope. (Can be supplied as an optional part)

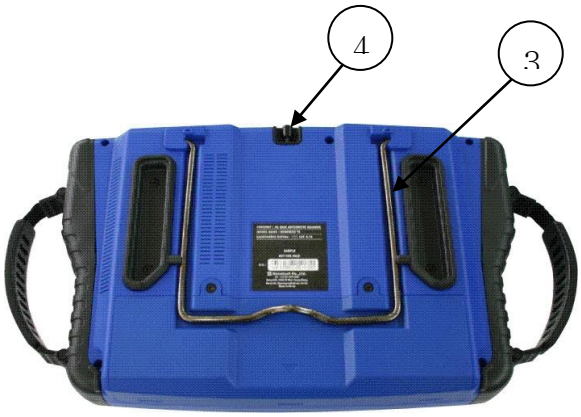
Chapter 3 Getting Started

Head Unit	-------	3-2
DLC Cable	-------	3-4
Power Supply	-------	3-5
Indicator LED	-------	3-5

Getting Started

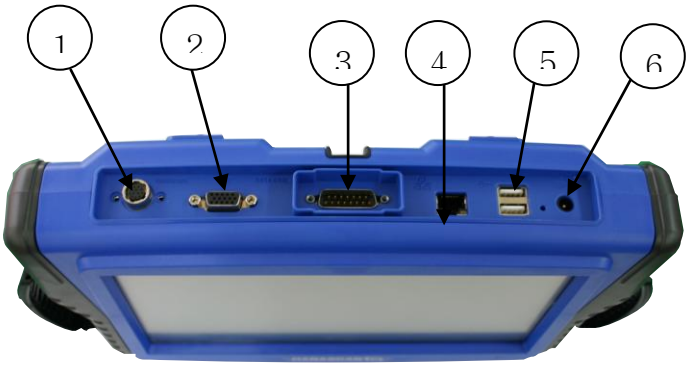
1. Head Unit

1-1. Front & back Side



① Carrying Handle
② Status Indicator LED
③ Stander
④ Touch Pen

1-2. Head Unit(Top Side)



① Bore Scope Port
② Video Out Port
③ DLC Port
④ LAN port
⑤ USB Port
⑥ DC in Port

1-3. Head Unit(Right Side)

Power is ON if Power Switch located at right side of Top to be pushed

2. 15Pin DLC Cable

1) Connecting to Desktop

Both side ends of 15pins DLC Diagnostic Cable Connector is same configuration, So any direction to be connected toward Desktop Connector of DLC Diagnostic Cable shall be inserted into 15pins Connector of Desktop and fixed by Double Side Sets Screw

2) Connecting to DLC Adaptor of Vehicle

The opposite site of DLC Diagnostic Cable shall be connected after placing in DLC Adaptor of Vehicle.

Caution

DLC Diagnostic Cable shall be always kept by Setscrew after connecting to equipment . Repetitive Connection and Removal shall be caused DLC Diagnostic Cable to be lose or Pins to be bent

3. Wireless (Bluetooth)

Desktop is included in Bluetooth Module so, shall be communicated with Blootooth in PC and Bluetooth Dongle shall be installed if PC has no Bluetooth.

4. 12V Power Supply

This product is able to be secured in Power through Power of OBD2 Terminal and Battery of Vehicle or AC/DC Adaptor in addition to Power of Integrated Rechargeable Battery.

1) Power Supply through DLC Diagnostic

12V Battery Power shall be supplied through majority of DLC Diagnostic Cable except some vehicle

2) Power Supply through Cigar Jack

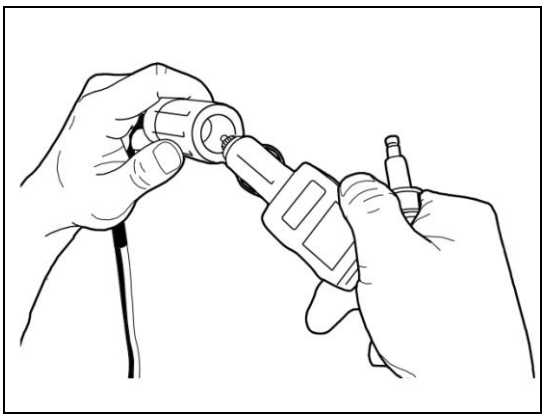
If Power Supply is not be supplied through DLC Diagnostic Cable, shall be Used by Cigar Jack and then both side of Cable shall be identified RED LED "ON" or not after insertion of Cigar Cable.

Power Supply Jack shall be inserted into Power Socket of Equipment.

3) Power Supply through Vehicle Battery

If Diagnostic Adaptor such as KIA, SSANGYONG etc. during on scanning for Vehicle of OBD1 Generation around Engine, Equipment needs to be placed in Engine Room.

If Power Supply is not be supplied through DLC Diagnostic Cable or Cigar Socket, Clip of DLC Diagnostic Cable shall be connected right position of Battery Socket. and identified RED LED “ON” or not.
Cable of Cigar Cable Power Cable shall be connected into Power Cable Socket.



5. LED Indicator

1) LED-1 Power : Red LED

If Power normally to be realized, LED is “ON

2) LED-2

A condition of battery shall be shown under Charging

* Green : Completion of Charging
* Yellow : Under the Charging

6. Removal of Battery

1) Removed after refer as below picture during replacement of battery.
2) Stander shall be placed, in advance.
3) 2pcs of 3mm bolt shall be released.
4) Battery shall be released.

3mm Bolt
Stander
Li201SX
Battery

Chapter 4 PC Program Guide

Installation/Registration of Program	-------	4-2
Explanation of Function Button	-------	4-6
Configuration	-------	4-21
Function of Diagnosis	-------	4-23
Updating of Program	-------	4-38
Self test	-------	4-41

Installation and Registration of Program

1. Installation of Program

1) Basic Specification

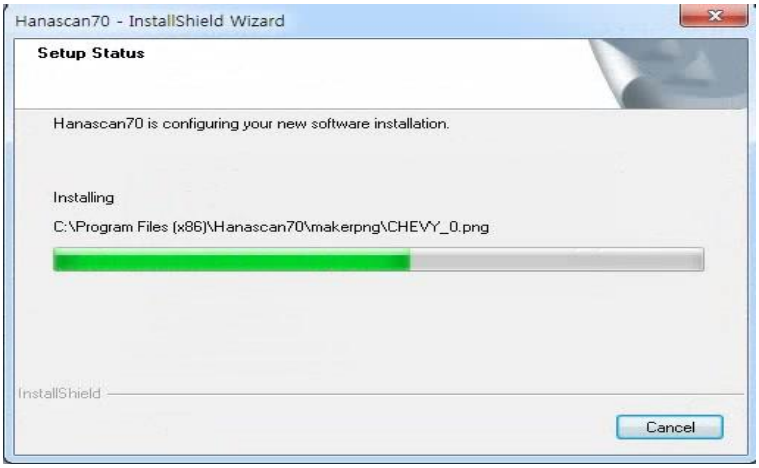
- Operating System
  - Excessive than XP(+SP3) 32Bit Operating System recommended
- Installation and Back-Up
  - HDD shall be recommended with unoccupied spaces by over 10GB except Operating System

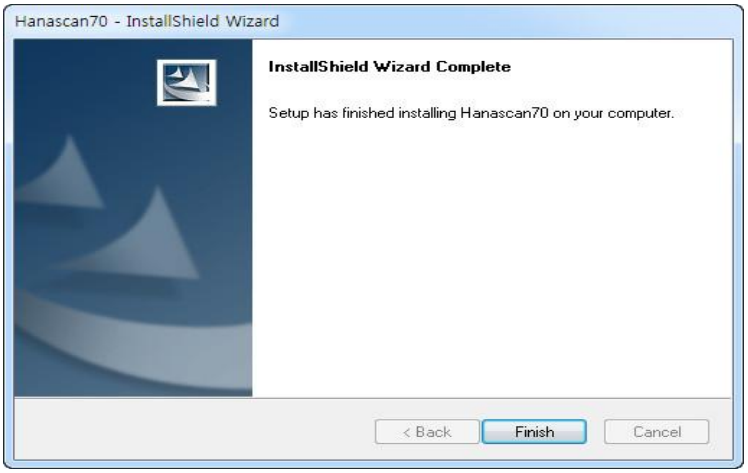
2) Program Installation and Product Registration

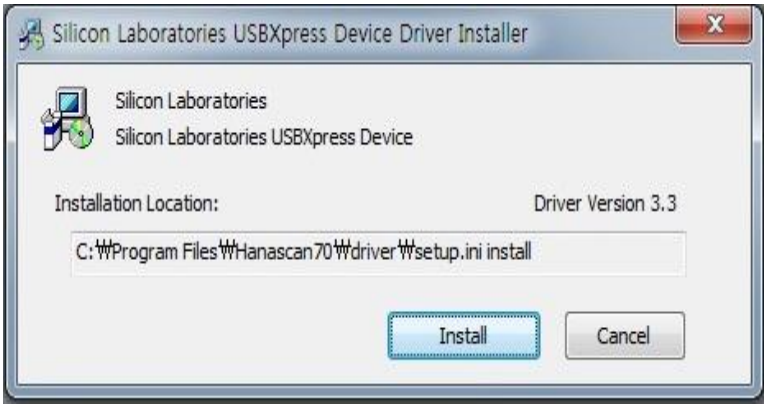
① Installation of Program

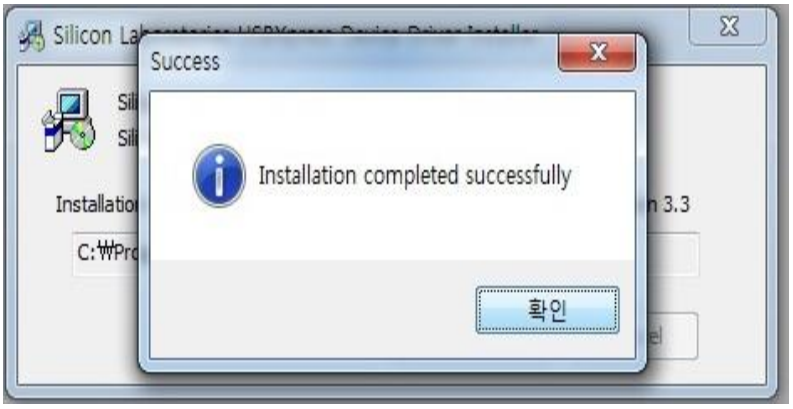
* Using provided file or installation CD, Program shall be installed

* Installation shall be completed after referring of Image file




Hanascan70 - InstallShield Wizard
InstallShield Wizard Complete
Setup has finished installing Hanascan70 on your computer.
< Back
Finish
Cancel


Silicon Laboratories USBXpress Device Driver Installer
Silicon Laboratories
Silicon Laboratories USBXpress Device
Installation Location:
Driver Version 3.3
C:₩Program Files₩Hanascan70₩driver₩setup.ini install
Install
Cancel

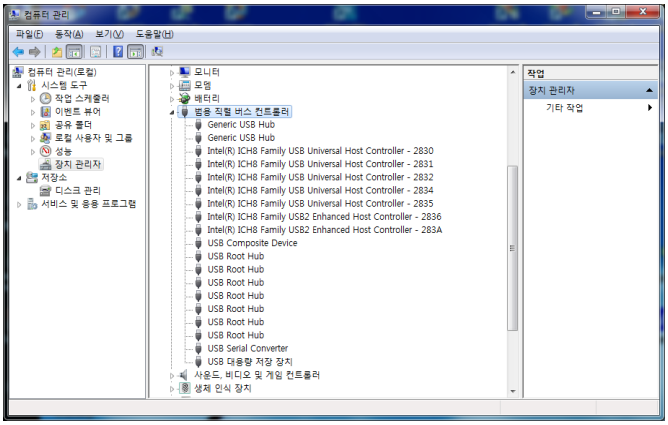

Success
Installation completed successfully
확인

② Identification of USB Driver

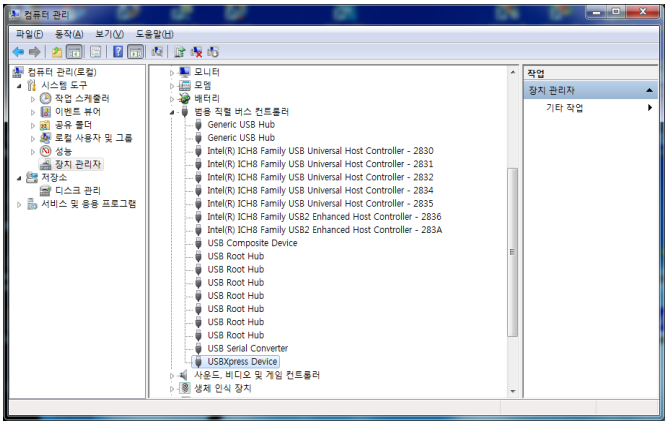
- Mostly to be automatically recognized, depends on installed OS shall be taken by several seconds or minutes
- If not be recognized well or delay, installed PC to be re-booted and then identified again
- Identification of Driver Installation normally or not, if the relevant USB controller to be expressed as below picture at currently installed window equipment operator.(Power Supply/Identification after connection to Diagnosis Module)

(64Bit OS operator shall be installed extra exclusive driver only)

- If Desktop Power is OFF condition or USB is not be properly connected between PC and Desktop



- If the driver normally to be recognized, USB Xpress Device shall be identified.

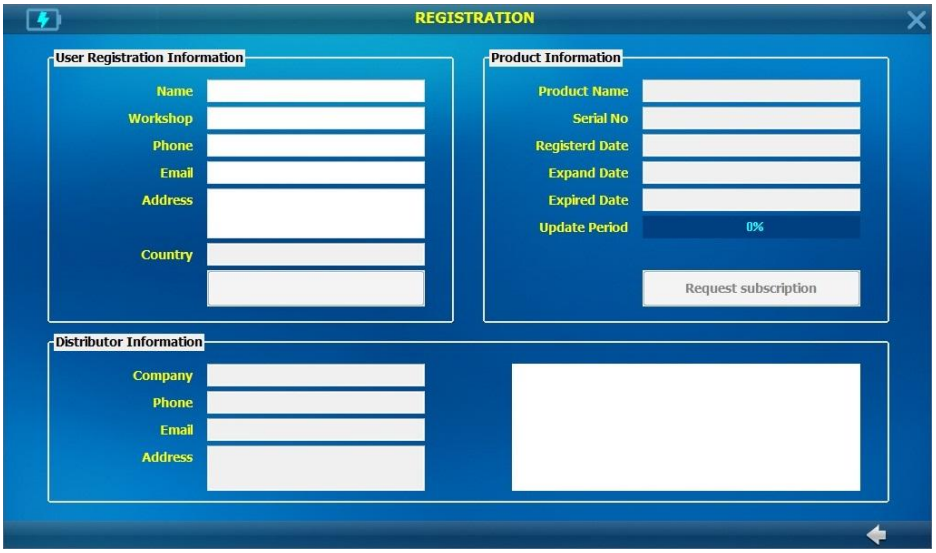


① User Registration

- The purchaser of first product is able to use normally after registration of product through below process.

  - Module and Internet to be connected simultaneously and then process of Registration shall be executed.
  - If Registration of Product is not be normally done, shall be restricted to be used
  -

  Procedure of registration is able to be completed as under the same as picture, if registration is not be normally done, shall be contacted to supplier or producer by mail or phone


REGISTRATION
User Registration Information
Name
Workshop
Phone
Email
Address
Country
Product Information
Product Name
Serial No
Registerd Date
Expand Date
Expired Date
Update Period
0%
Request subscription
Distributor Information
Company
Phone
Email
Address

Explanation of Function Button

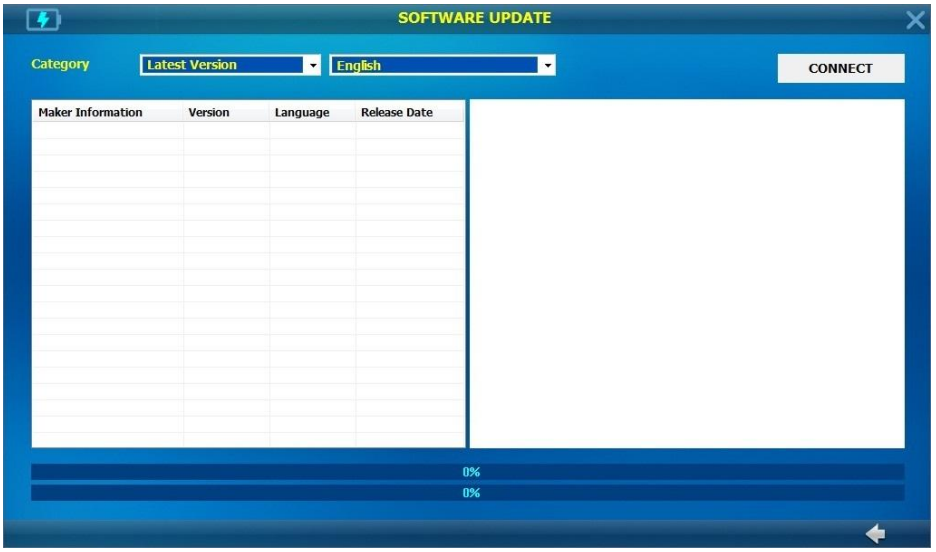
1) Main Screen

2)

- ① Diagnostic/ ② ODB-II
  - Go into Diagnostic/go into General OBD Diagnostic OBD

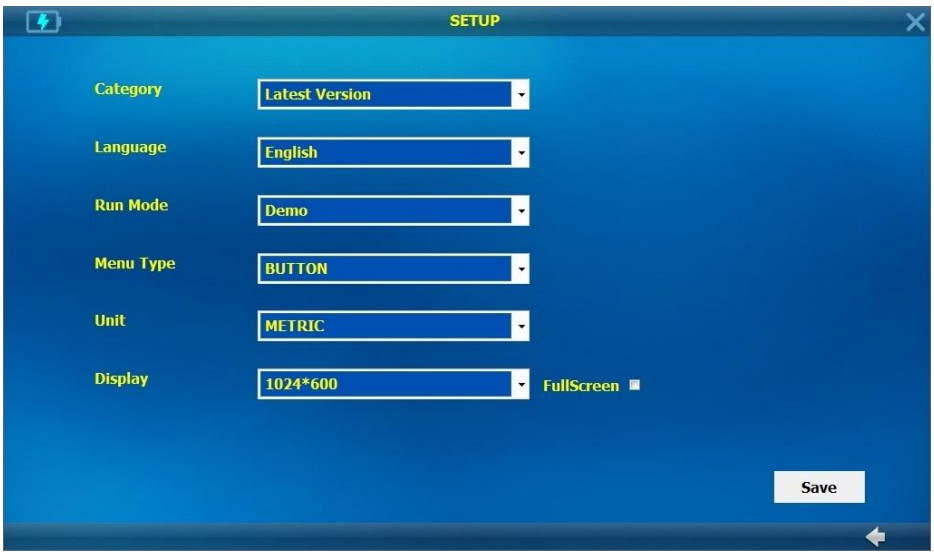
- ③ Guide
  - Go into User manual

- ④ Update.
  - Go into Upgrade

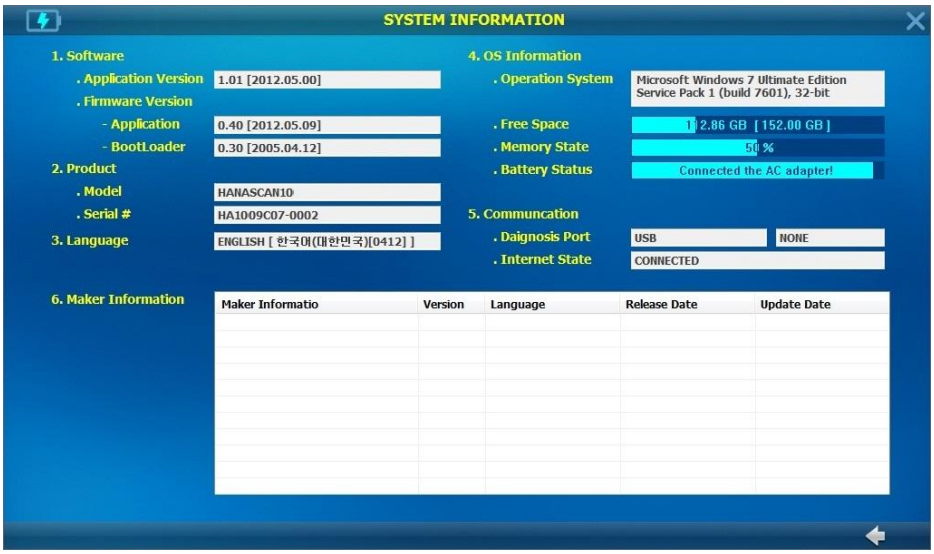


- ⑤ Setup.

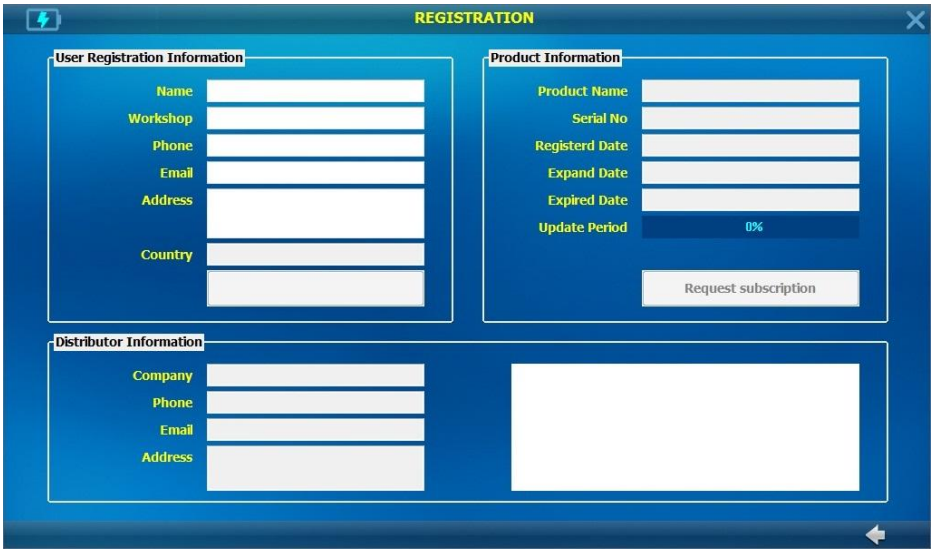
- Go into User Environment Set-up



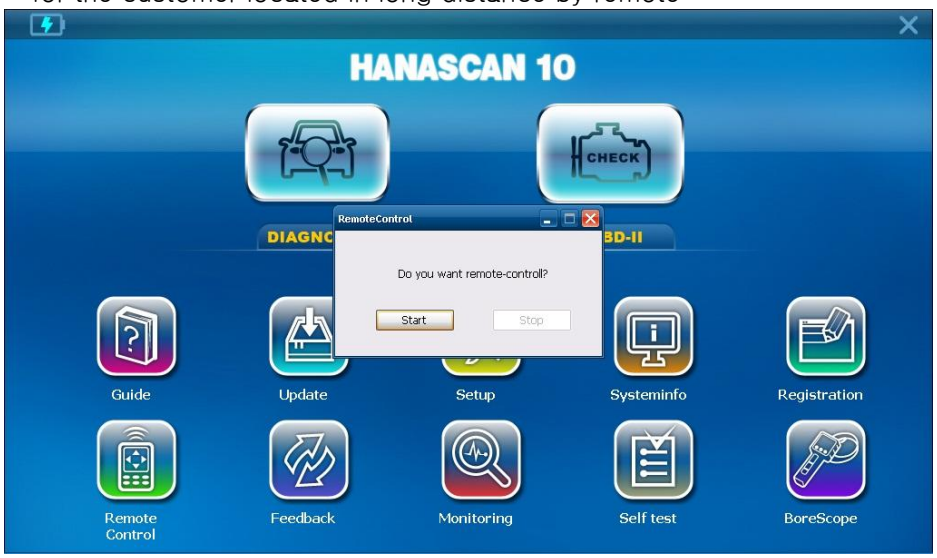
- ⑥ System Info
  - Go into System Information



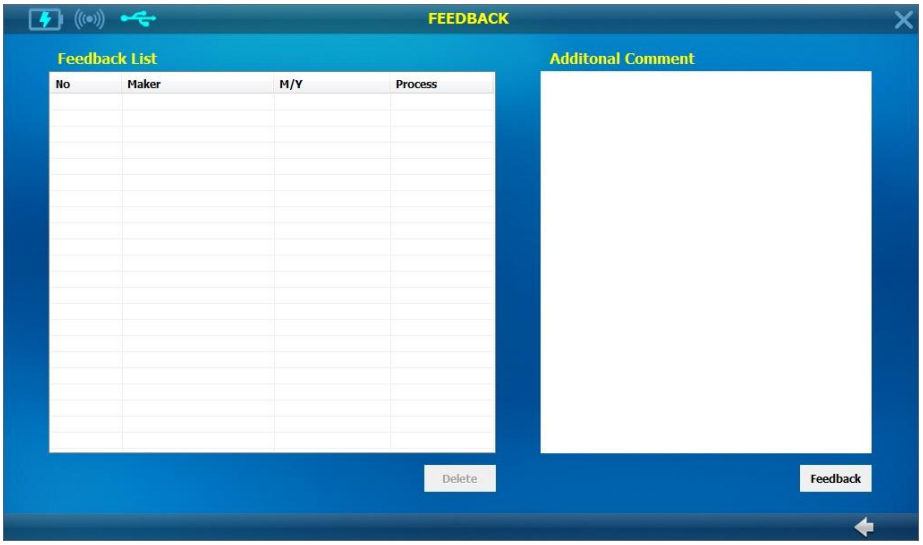
- ⑦ Registration.
  - Go into User Registration



- ⑧ Remote Control.
  - Remote Control means the function of solution to be solved program for the customer located in long distance by remote



- ⑨ Feedback.
  - Go into Feedback



- ⑩ Monitoring.
  - Monitoring is exclusive function for dealer to be applied such as New or Undeveloped Vehicle and information of collection for development of devices.

- ⑪ Self Test.
  - Function of Self test is itself available for diagnosis of several articles if

not to be operated after connection with Hanascan by User

- ⑫ BoreScope
  - The Function of Borescope to be saved Screen through identification of Video Screen after put into Borescope against invisible point.

- ⑬ Top Icon
  - Declaration for condition of Battery, USB and Bluetooth

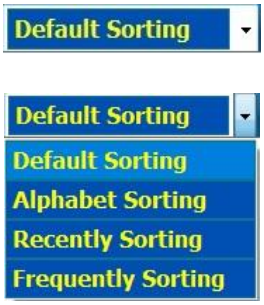
- ⑭ Completion
  - Completion of Executive Program
    (Sometimes, Main Screen may not enable to be provided)

2) Diagnosis Menu

- Indication of Equipment Information
  - Indication of Battery Status

  - Indication for connection of Communication Device[USB]

  - Arrayal Function(The Icon of Diagnosis Maker shall be formed into the line such as Name, Latest Execution, Frequency Execution against Maker)



  - Indication of Program Category to be executed (Executed by Setup)

- Function of History (Shown as Diagnosed Equipment List)
  - List shall be generated and added then after Diagnosis is executed successfully even only once
  - If desired item to be selected, transferred to Menu before execution of Diagnosis at once.

- Completion of Program
  - Completion of Program

- Menu Transfer
  - Transferred to Selection for maker

  - Transferred to Uppermost Menu for Maker of Diagnosis.

  - Transferred to Previous Step

  - Transferred to Next Step(First Entry shall not be applicable, able to be applied during on re-entry)

- Function of Record Data Road(Saved real-time Data Road)

Output of Graph(available for function of Live Data)

- Screen Capture(Programmed Screen shall be captured during on Icon click)

- Record of Log Data(Saved the information for Feedback to be transferred)

- Printer(D.T.C. available to be shown for real time data and printed Contents)

- Saved real time Data(during on real time data diagnosis)/Read(on completion of Diagnosis Mode)

- Data Position Transfer on the Output Screen
  - Transferred 1 Line to the Bottom

  - Transferred 1 Line to the Top

  - Transferred 1 Page to the Bottom

  - Transferred 1 Page to the Top

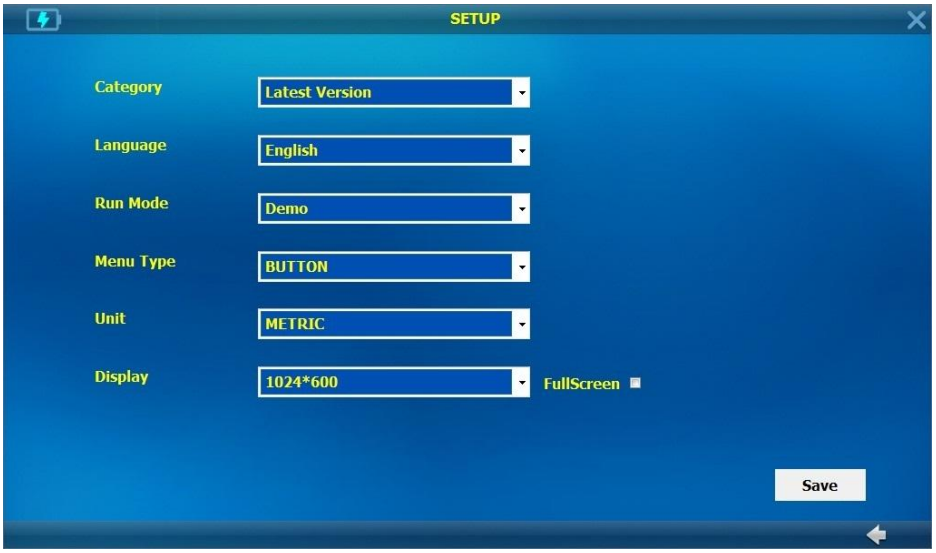
3) Manual

- Browsing of Manual Information for Equipment Use
  - Provision of Product Relevant Information
  - Provision of Usage

4) Upgrading

- Upgrading of Diagnosis Program
  - Selection of Category(Selection of Diagnosis Program Version to be upgraded)
  - Indication of Upgraded Items
  - Indication of Upgraded Contents

5) Configuration

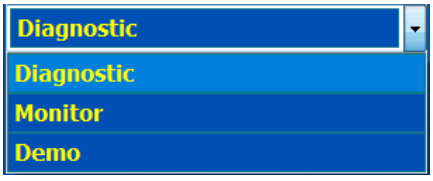


- Selection of Category
- Selection of Diagnosis Program Version to be executed

- Setting Language
- Supported 15 languages
- Revised language of Host by selected language
- Diagnosis Program to be selected against Upgrade by selected language

(The case of supporting for relevant language on the Diagnosis Program)

- Execution Mode
- Execution of Diagnosis Function
- Execution of Demo Mode Function
- Execution of Development Monitoring Function

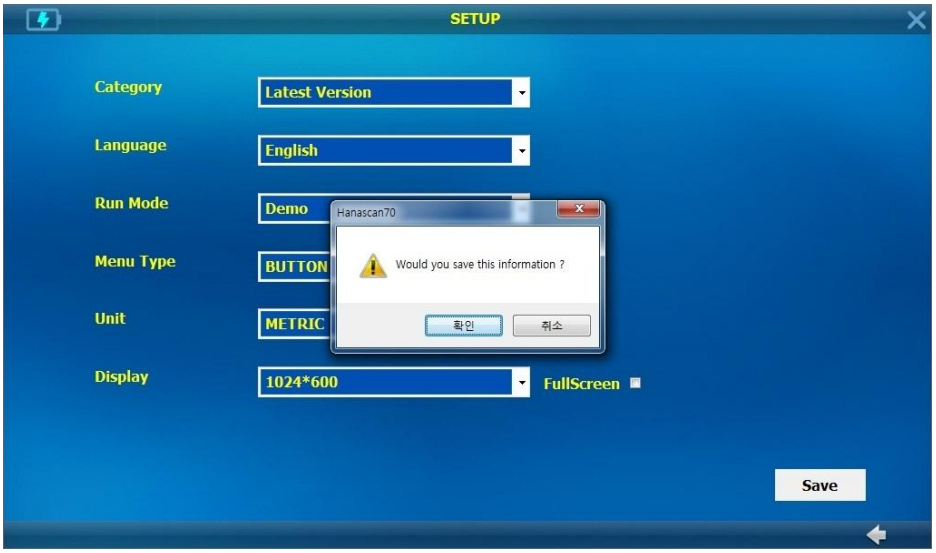


- Type of Menu
- Form Selection of Diagnosis Menu

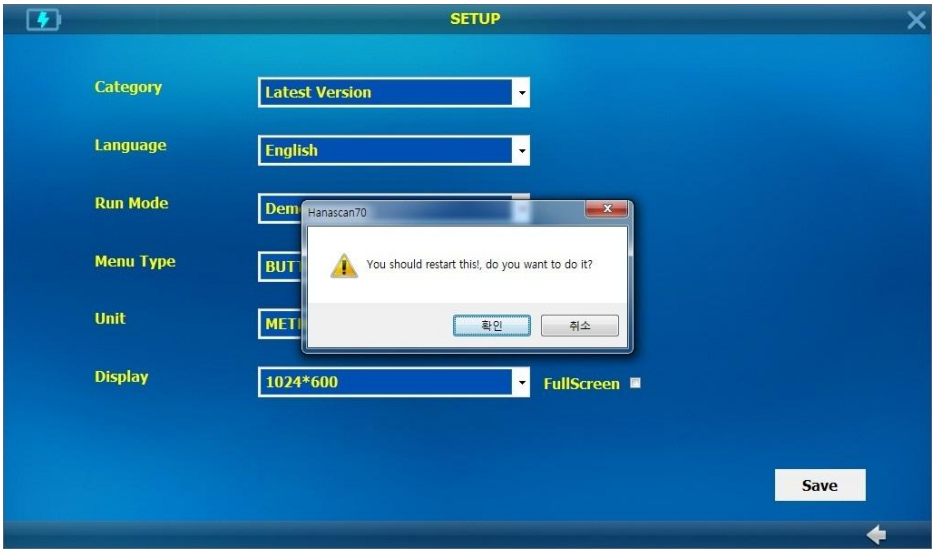
- Setup of Unit
- Selection of Unit such as METRIC, ENGLISH

- Setup of Resolution
- Available to setup for 2 kinds of Resolution as 1024*600, 1024*768
- Supported Full Screen mode(Checked by Checkbox)

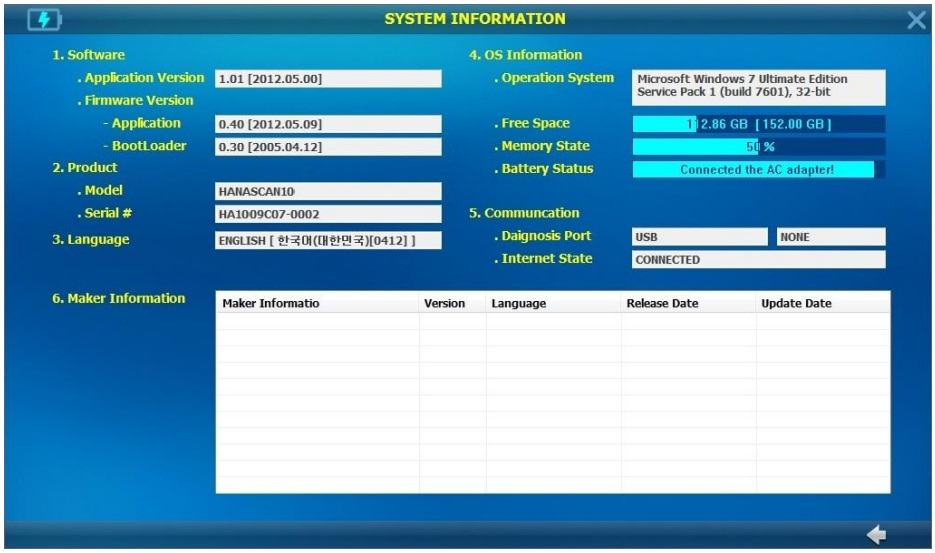
- Setup Preservation Button
- Saved established Information



- Established Information to be applied, Program shall be executed again


SETUP
Category
Latest Version
Language
English
Run Mode
Menu Type
Unit
Display
1024*600
FullScreen
Save
Hanascan70
You should restart this!, do you want to do it?
확인
취소

Information of System



- Software
- Indication of Host Program Version Information
- Indication of Equipment F/W Information(Application, Boot)
- Product
- Indication of Equipment Model Information
- Indication of Equipment Serial Number
- Language
- Indication of selected Language Information from Setup
- OS Information
- Indication of OS Version Information for Computer
- Indication of HDD Usable Space Information
- Indication of Memory Condition Information
- Indication of Battery Information
- Communication
- Indication of Communication Interface Information between Diagnosis Program and Module
- Indication of Internet Connection Information
- Maker Information
- Indication of Installed Diagnosis Program Information List

- Registration of User
  - The Purchaser of the Diagnosis Equipment shall be formally registered and if not formal registered, able to be restricted during on use

- Remote Control
  - Support of Remote A/S
  - The function is available for solution of Program trouble during Customer located in long distance on use

- Feedback
  - Transfer of Feedback
  - The function is available for quick relevant trouble after provision of feedback to Scanner Manufacturer in case of problem during on scanning.

- Monitoring
  - Function of Necessity Information Provision to be developed

  - The function is exclusive for Dealer and using for collection of necessary information for the New or Undeveloped Vehicle and Device to be developed.

- Self Diagnosis
  - Self Diagnosis of H/W
  - The Function is available for self diagnosis by each part for several list itself if operation shall not be executed after connection of Hanascan by User.

- BoreScope
  - Function of Borescope
    The Function of Borescope to be saved Screen through identification of Video Screen after put into Borescope against invisible point.

2. Registration of User

1) Registration

- Equipment shall be registered through below process(Beginning after connection of Diagnosis Equipment and PC)
- First Step : Execution of Registration Icon on Host Main Screen

- Second Step : Input User Personnel Information

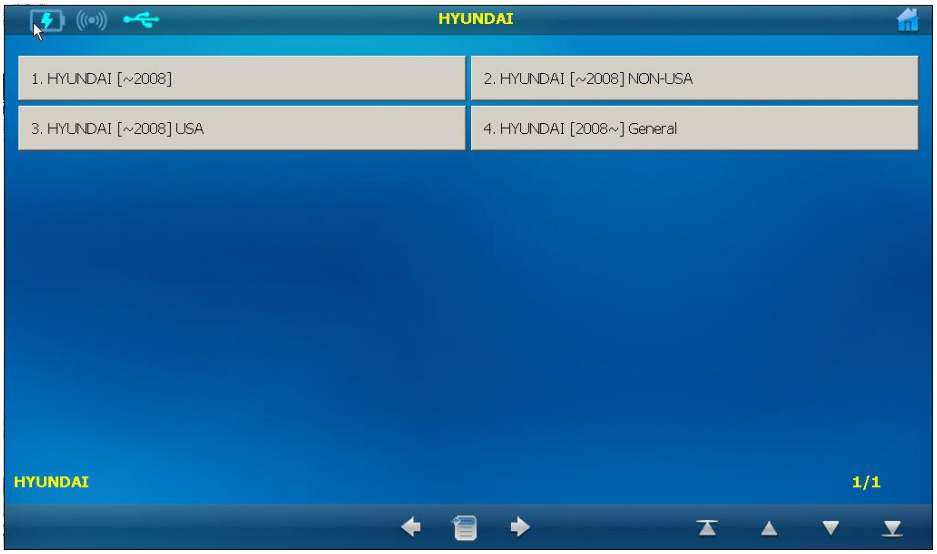
- Third Step : Execution of Registration Button After completion of insertion for Personnel Information

3. Use

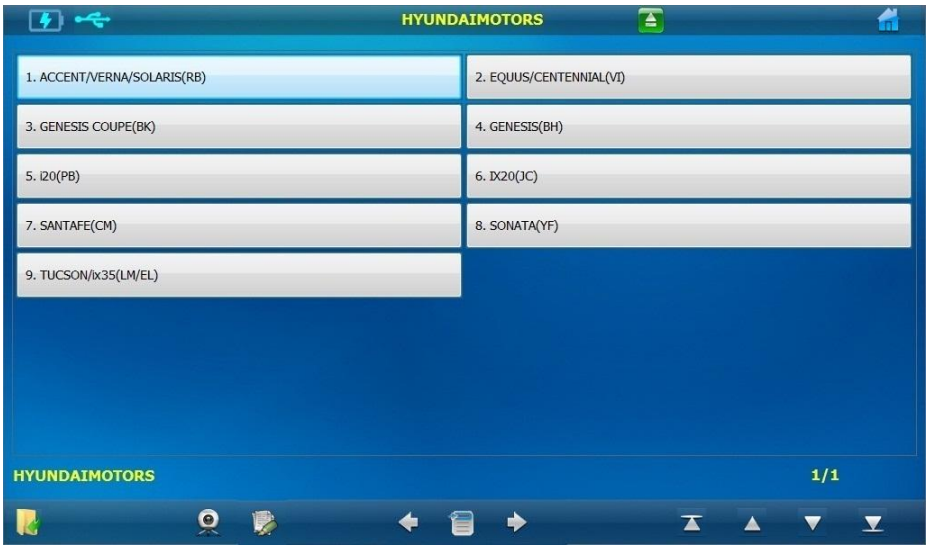
1) Diagnosis Program

- Entry into Diagnosis Mode : Manufacturer -> Model -> Equipment(Ex. Hyundai)
- Entry into Maker Selection Screen

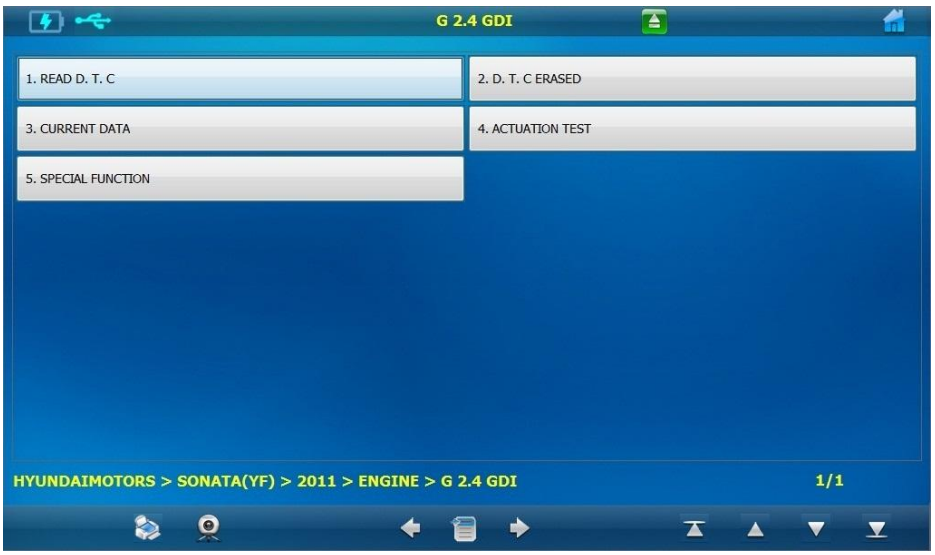
- Entry into Maker Bottom Menu



- Entry into Model Selection Menu

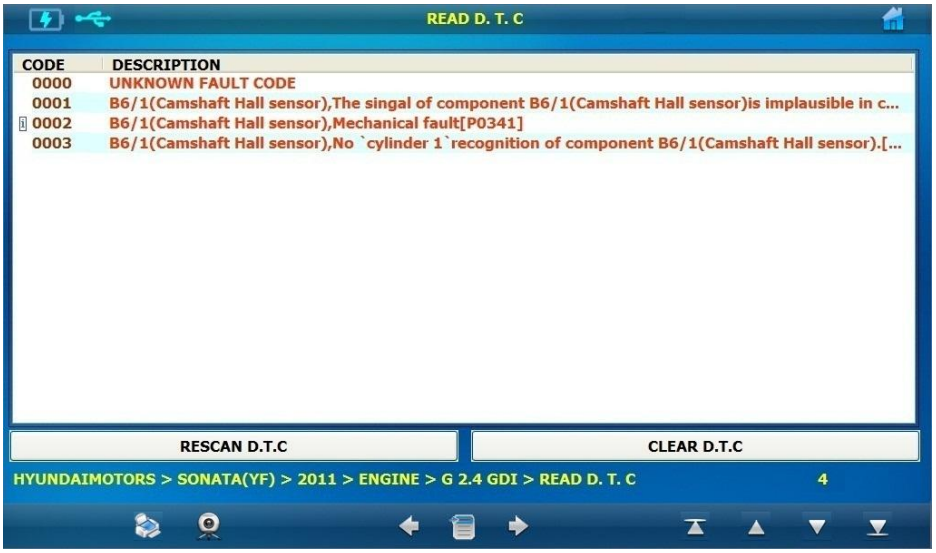


- List of Diagnosis


G 2.4 GDI
1. READ D. T. C
2. D. T. C ERASED
3. CURRENT DATA
4. ACTUATION TEST
5. SPECIAL FUNCTION
HYUNDAIMOTORS > SONATA(YF) > 2011 > ENGINE > G 2.4 GDI
1/1

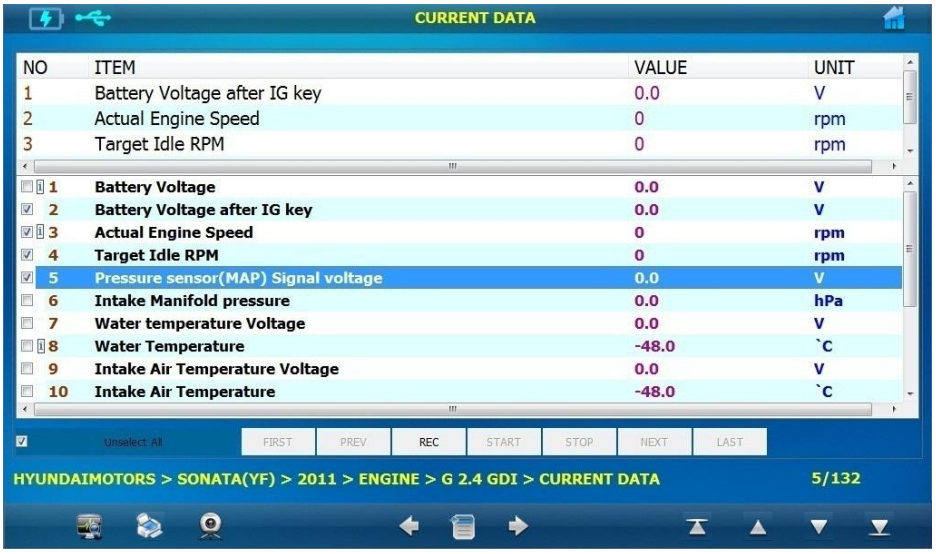
① Self Diagnosis

- Read/Removal of Trouble Code
- In case of [i]mark is showing at the front of CODE, For the relevant Trouble Code Sensor shall be support by " Help" by double click


READ D. T. C
CODE
DESCRIPTION
0000
UNKNOWN FAULT CODE
0001
B6/1(Camshaft Hall sensor),The singal of component B6/1(Camshaft Hall sensor)is implausible in c...
0002
B6/1(Camshaft Hall sensor),Mechanical fault[P0341]
0003
B6/1(Camshaft Hall sensor),No `cylinder 1`recognition of component B6/1(Camshaft Hall sensor).[...
RESCAN D.T.C
CLEAR D.T.C
HYUNDAIMOTORS > SONATA(YF) > 2011 > ENGINE > G 2.4 GDI > READ D. T. C
4

② Service Data

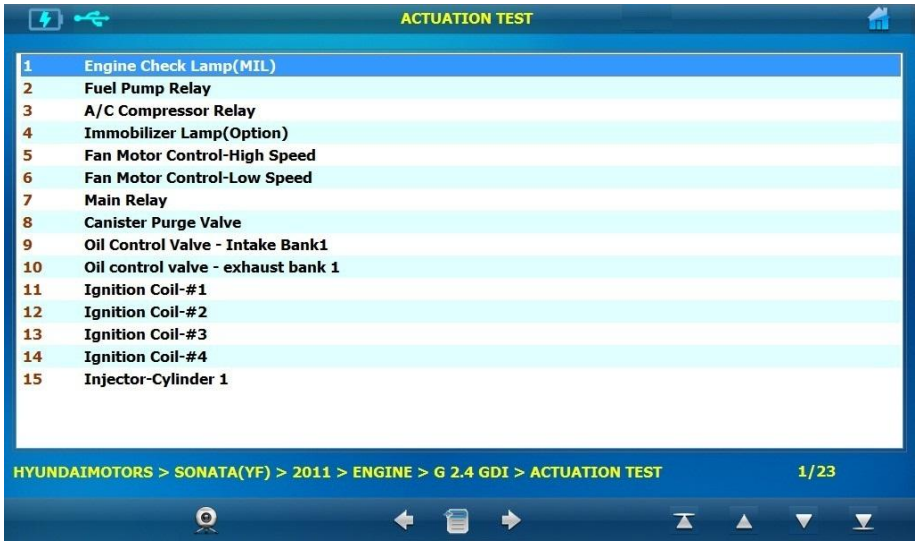
- Indication of Real time Data/Graph for the Sensor
- Graph Indication Button and Recording Button shall be activated, Selected List is able to be executed the function of indication for Recording and Graph.

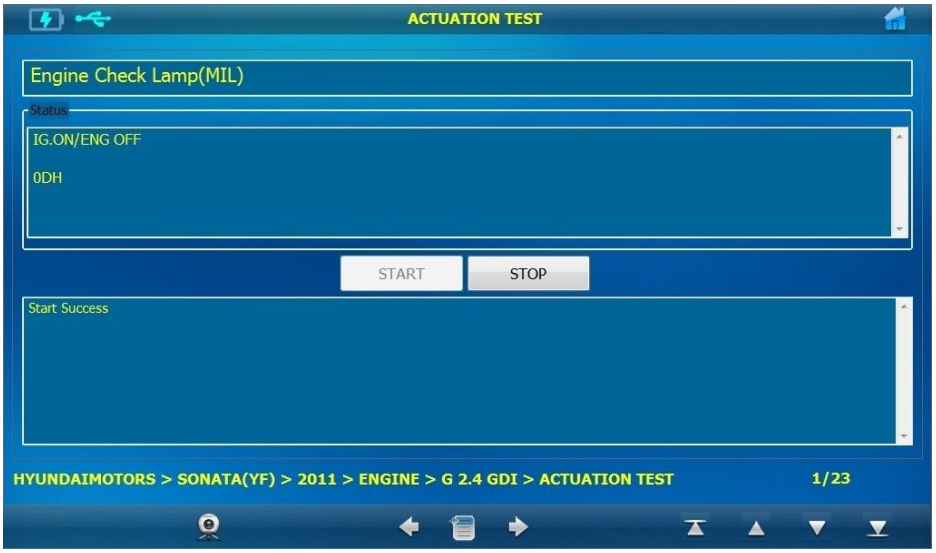

CURRENT DATA
NO
ITEM
VALUE
UNIT
1 Battery Voltage after IG key 0.0 V
2 Actual Engine Speed 0 rpm
3 Target Idle RPM 0 rpm
1 Battery Voltage 0.0 V
2 Battery Voltage after IG key 0.0 V
3 Actual Engine Speed 0 rpm
4 Target Idle RPM 0 rpm
5 Pressure sensor(MAP) Signal voltage 0.0 V
6 Intake Manifold pressure 0.0 hPa
7 Water temperature Voltage 0.0 V
8 Water Temperature -48.0 `C
9 Intake Air Temperature Voltage 0.0 V
10 Intake Air Temperature -48.0 `C
Unselect All
FIRST
PREV
REC
START
STOP
NEXT
LAST
HYUNDAIMOTORS > SONATA(YF) > 2011 > ENGINE > G 2.4 GDI > CURRENT DATA
5/132

- In case of [i]mark is showing at the front of CODE, For the relevant Trouble Code Sensor shall be support by " Help" through double click

③ Random Operation(Compulsion Drive/Special Function)

- According to Use Environment, Relevant Menu is not able to be supported

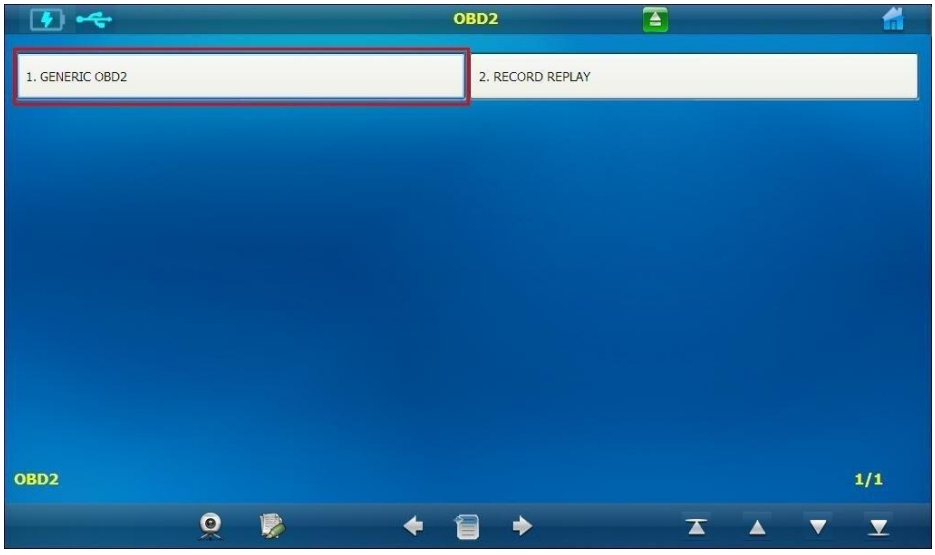

ACTUATION TEST
1 Engine Check Lamp(MIL)
2 Fuel Pump Relay
3 A/C Compressor Relay
4 Immobilizer Lamp(Option)
5 Fan Motor Control-High Speed
6 Fan Motor Control-Low Speed
7 Main Relay
8 Canister Purge Valve
9 Oil Control Valve - Intake Bank1
10 Oil control valve - exhaust bank 1
11 Ignition Coil-#1
12 Ignition Coil-#2
13 Ignition Coil-#3
14 Ignition Coil-#4
15 Injector-Cylinder 1
HYUNDAIMOTORS > SONATA(YF) > 2011 > ENGINE > G 2.4 GDI > ACTUATION TEST
1/23


ACTUATION TEST
Engine Check Lamp(MIL)
Status
IG.ON/ENG OFF
0DH
START
STOP
Start Success
HYUNDAIMOTORS > SONATA(YF) > 2011 > ENGINE > G 2.4 GDI > ACTUATION TEST
1/23

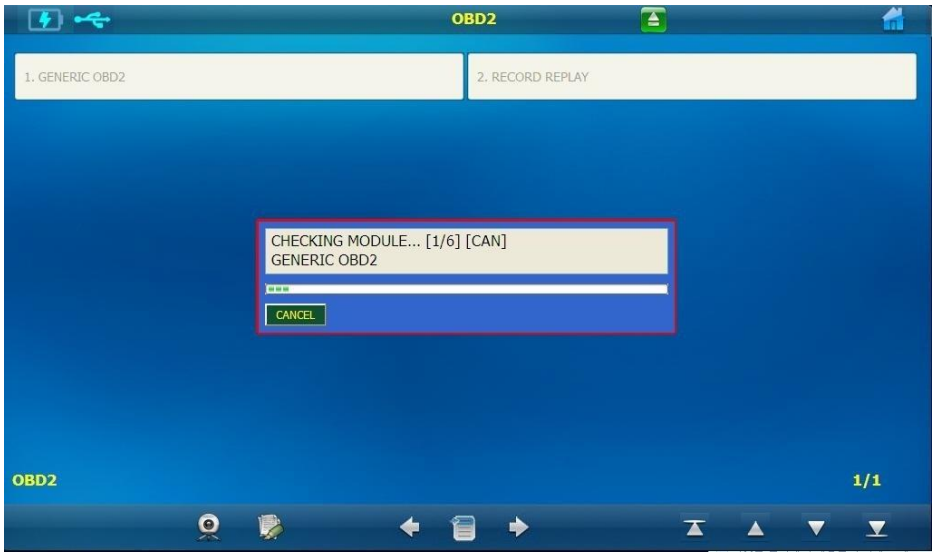
2) Program of OBD-II

- Entry into OBD-II Mode after selection of OBD-II

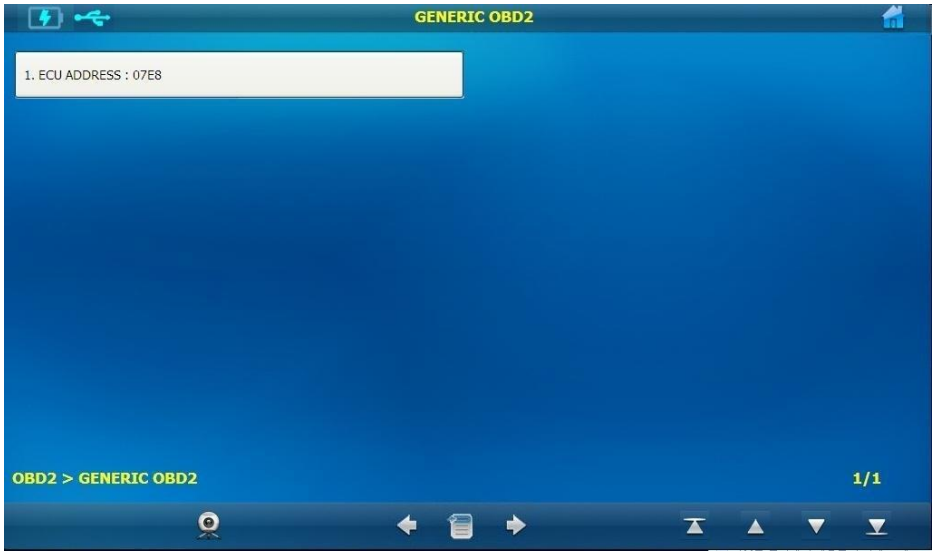
- Entry into OBD-II Communication Menu



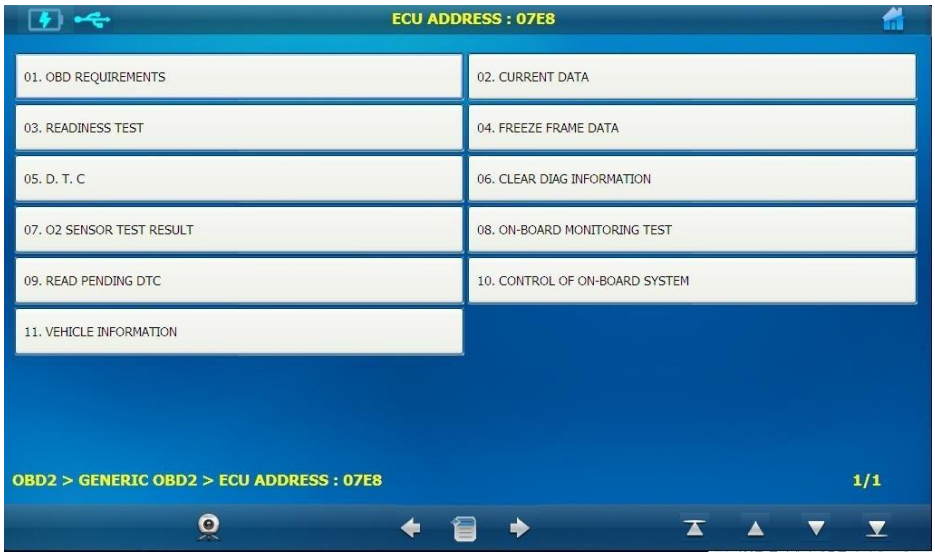
- Entry after selection of " GENERIC OBD2 " Menu



- If executed, Communication of vehicle to be diagnosed shall be scanned automatically



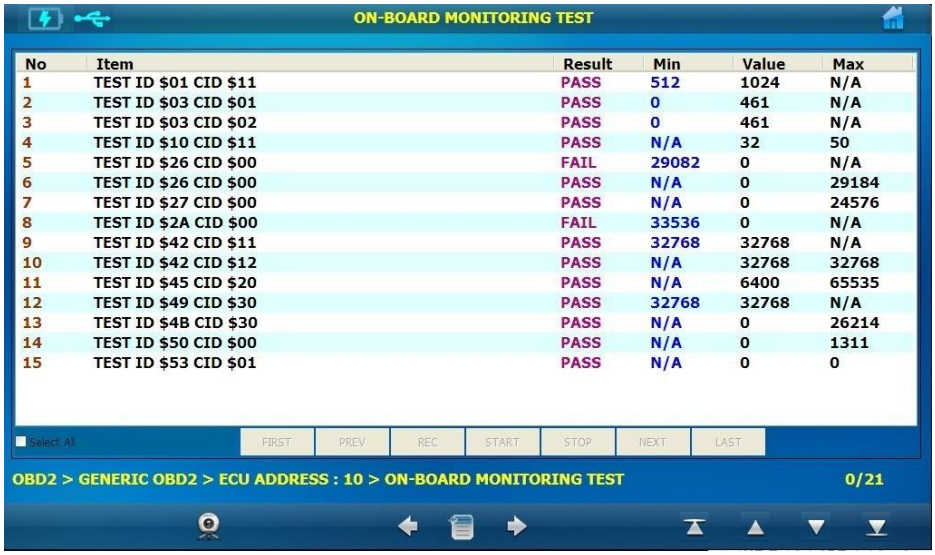
- If communication is successfully done with Vehicle, A Button with Relevant ECU Address Information shall be generated
- Entry after selection of Relevant Button


ECU ADDRESS : 07E8
01. OBD REQUIREMENTS
02. CURRENT DATA
03. READINESS TEST
04. FREEZE FRAME DATA
05. D. T. C
06. CLEAR DIAG INFORMATION
07. O2 SENSOR TEST RESULT
08. ON-BOARD MONITORING TEST
09. READ PENDING DTC
10. CONTROL OF ON-BOARD SYSTEM
11. VEHICLE INFORMATION
OBD2 > GENERIC OBD2 > ECU ADDRESS : 07E8
1/1

- Dignosis Button shall be shown if entry after selection of Relevant Button
- 01. OBD REQUIREMENTS – Required type of OBD to be shown
- 02. CURRENT DATA – Diagnosis Data of Vehicle to be shown on Real time.
- 03.READINESS TEST – Stand by Condition of Vehicle to be shown
- 04. FREEZE FRAME DATA – Fixation Frame Data of Vehicle to be shown
- 05. D.T.C – Trouble Code of Vehicle to be identified
- 06. CLEAR DIAG INFORMATION – Trouble Code of Vehicle to be removed
- 07. O2 SENSOR TEST RESULT – Oxygen Sensor Monitoring Test of Vehicle to be shown by result
- 08. ON-BOAD MONITORING TEST – ON-BOARD Monitoring Result for Specified Monitoring System of Vehicle to be identified
- 09. READ PENDING DTC – The Data to be revised as trouble code of Vehicle to be shown
- 10. CONTROL OF ON-BOARD SYSTEM – ON BOARD System of Vehicle To be tested and Requirement of Component to be controlled
- 11. VEHICLE INFORMATION – Information of Vehicle to be identified
- Indication of Menu for each Protocol : “ ON-BOARD MONITORING TEST “ shall be differed visible menu according to protocol of vehicle

ON-BOARD MONITORING TEST
01. O2 SENSOR MONITOR B1S1
02. O2 SENSOR MONITOR B1S2
03. O2 SENSOR MONITOR B1S3
04. O2 SENSOR MONITOR B1S4
05. O2 SENSOR MONITOR B2S1
06. O2 SENSOR MONITOR B2S2
07. O2 SENSOR MONITOR B2S3
08. O2 SENSOR MONITOR B2S4
09. O2 SENSOR MONITOR B3S1
10. O2 SENSOR MONITOR B3S2
11. O2 SENSOR MONITOR B3S3
12. O2 SENSOR MONITOR B3S4
13. O2 SENSOR MONITOR B4S1
14. O2 SENSOR MONITOR B4S2
15. O2 SENSOR MONITOR B4S3
16. O2 SENSOR MONITOR B4S4
17. CATALYST MONITOR B1
18. CATALYST MONITOR B2
19. CATALYST MONITOR B3
20. CATALYST MONITOR B4
21. EGR MONITOR B1
22. EGR MONITOR B2
23. EGR MONITOR B3
24. EGR MONITOR B4
OBD2 > GENERIC OBD2 > ECU ADDRESS : 07E8 > ON-BOARD MONITORING TEST
1/3

- In case of Vehicle to be used CAN Protocol

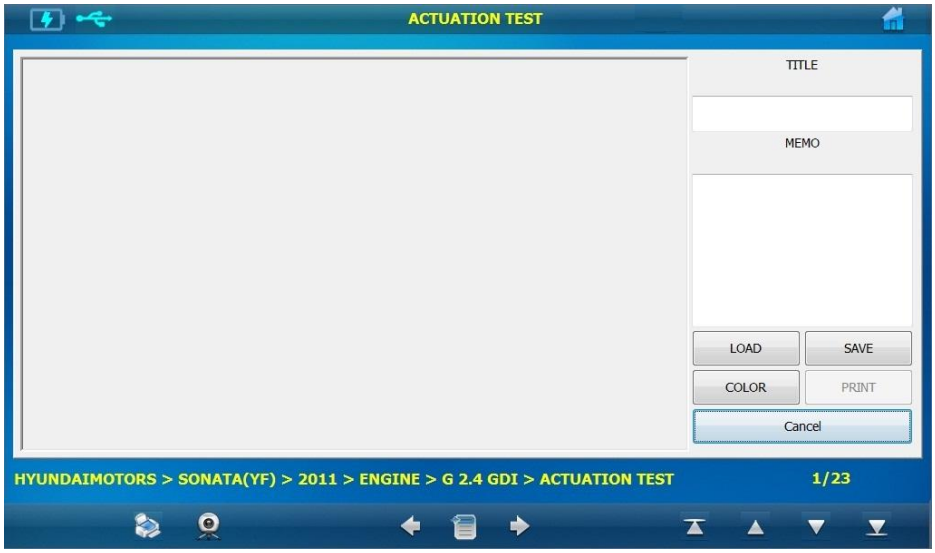

ON-BOARD MONITORING TEST
No Item Result Min Value Max
1 TEST ID $01 CID $11 PASS 512 1024 N/A
2 TEST ID $03 CID $01 PASS 0 461 N/A
3 TEST ID $03 CID $02 PASS 0 461 N/A
4 TEST ID $10 CID $11 PASS N/A 32 50
5 TEST ID $26 CID $00 FAIL 29082 0 N/A
6 TEST ID $26 CID $00 PASS N/A 0 29184
7 TEST ID $27 CID $00 PASS N/A 0 24576
8 TEST ID $2A CID $00 FAIL 33536 0 N/A
9 TEST ID $42 CID $11 PASS 32768 32768 N/A
10 TEST ID $42 CID $12 PASS N/A 32768 32768
11 TEST ID $45 CID $20 PASS N/A 6400 65535
12 TEST ID $49 CID $30 PASS 32768 32768 N/A
13 TEST ID $4B CID $30 PASS N/A 0 26214
14 TEST ID $50 CID $00 PASS N/A 0 1311
15 TEST ID $53 CID $01 PASS N/A 0 0
Select All
FIRST
PREV
REC
START
STOP
NEXT
LAST
OBD2 > GENERIC OBD2 > ECU ADDRESS : 10 > ON-BOARD MONITORING TEST
0/21

- In case of Vehicle not to be used CAN Protocol

3) Optional Function of Diagnosis Program

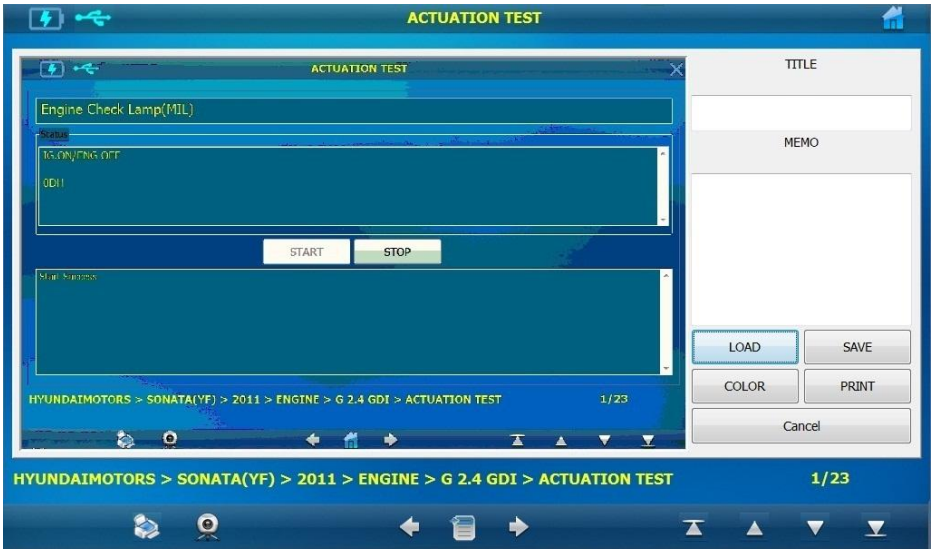
① Screen Capture(Capturing for Screen of Diagnosis Program)

- Click the Icon of Screen Capture, Entry into Captured Screen(Screen of Program shall be saved automatically during click on Icon – ex, Screen of Random Operation)



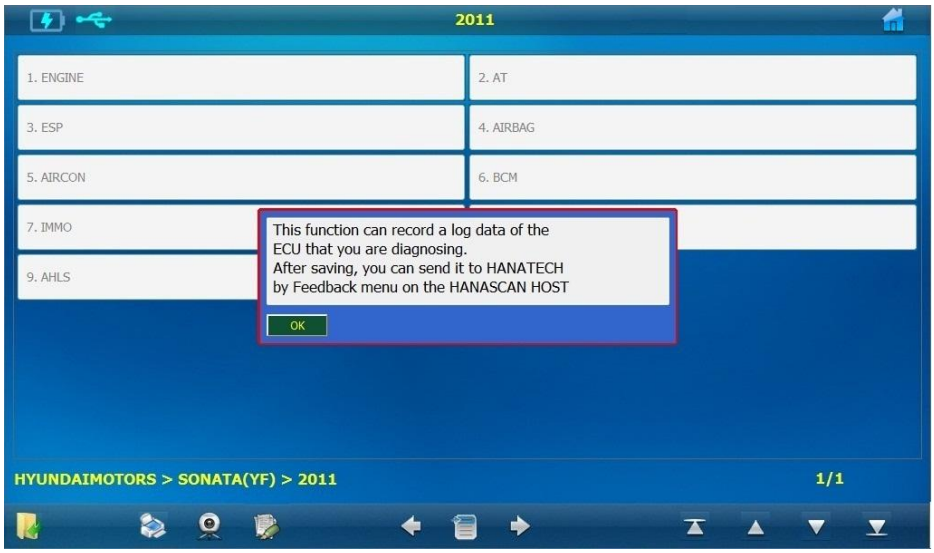
- Click the Icon of COLOR, Color of Brush Pen to be selected (Supporting for drawing of picture on Captured Screen by Mouse)
- Click the Icon of SAVE, Revised Captured File and information of TITLE/MEMO to be saved

- Click the Icon of PRINT, Roaded Captured File to be printed
- Click the Icon of LOAD, Saved Screen to be loaded

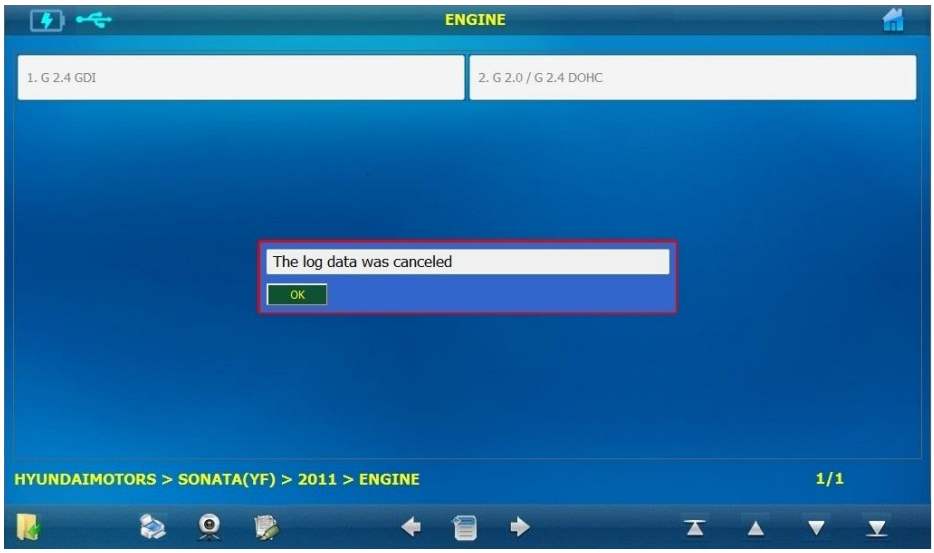


② Record of Log Data

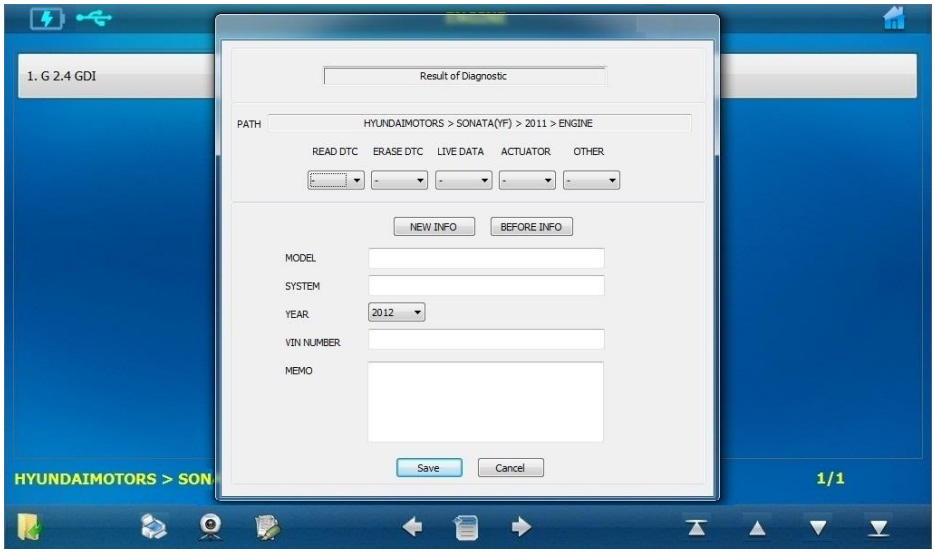
- The function is saved the information to be sent Feedback if Trouble caused during on scanning
- The Icon to be activated only for the case of Diagnostic if Scanner on mode of execution
- Click the Icon of Record Log Data from Equipment Selection Menu (Log Data Record mode ON – shall be identified Log Data saved or not during on moment of escape from Equipment Selection Menu at the Diagnosis List menu after scanned from later on)



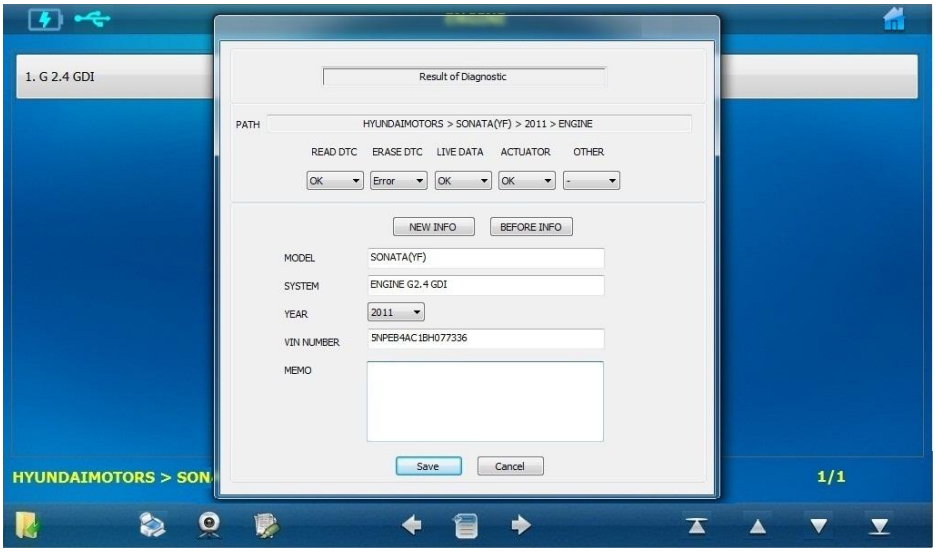
- If Log Data Record Mode to be “OFF”, Icon shall be Clicked once again.



- Entry into Log Data Record Screen(Entry the moment of escape to Equipment Menu from Diagnosis List)



- Selection and Composition for Relevant Details Information of Error (BEFORE INFO. Provided the information easy to be input after loading of Previous Input Information if click the Icon)
- Saved after click on SAVE Icon



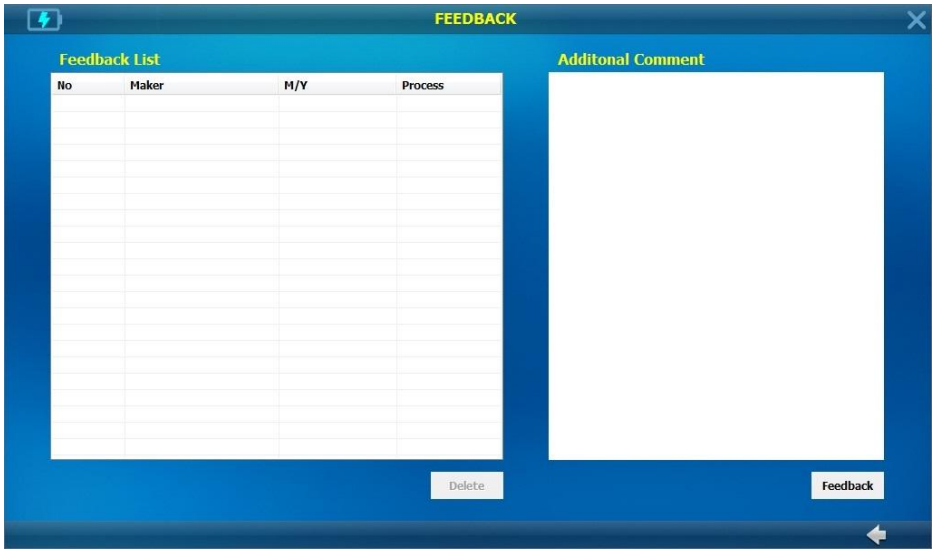
4. Transfer of Feedback

Preparation for Feedback Information

- Preparation Procedure of Feedback Progress(Feedback Transfer is function to be transferred saved log data during on scanning)
  - No.1 : Log Data Record Mode ON at the Diagnosis Program(Clicked the Icon)
  - No.2 : Escaped to Equipment Selection Menu after scanned of troubled Equipment.(Log Data Record – Available for input of Optional Information)
  - No.3 : Repeated No.2 against Troubled Equipment
  - No.4 : Log Data Record Mode OFF(Click the Icon)
    (If Log Data Record Mode to be OFF, General Diagnosis to be used continuously due to not be entered into Log Record Screen after scanned.)
- Transfer available by one-time during on internet after recording of Log Data for several maker.

1) Procedure of Feedback

- Entry into Feedback Screen(Using after connection through Internet)
  - (Screen shall not to be shown due to not transferred Feedback during on First Entry)



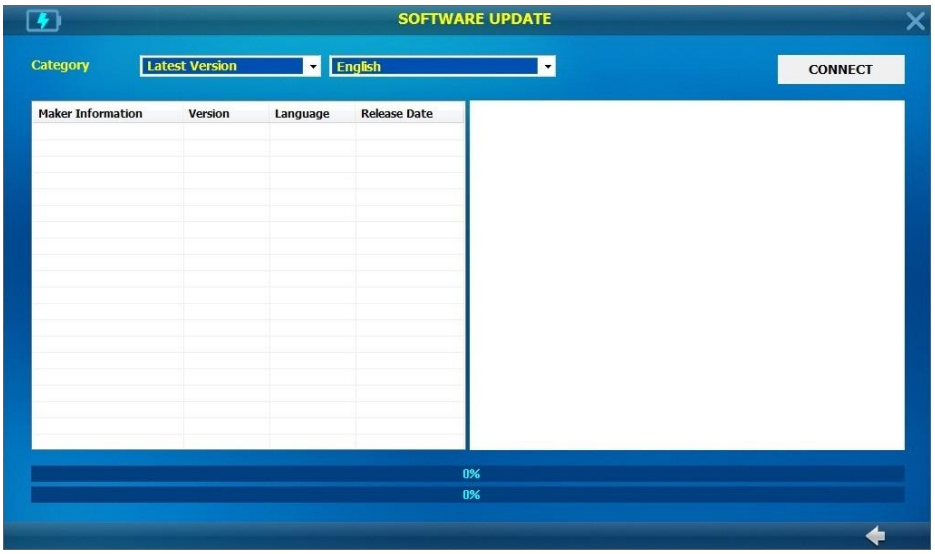
- Feedback Transfer(Click the Feedback Button)
  - Indicated the information for feedback of Maker, Date, Situation of Disposal on the left side of Screen
  - Indicated the information for Selected Feedback Information and Response for feedback by Engineer on the right side of Screen.
  - If Button of Delete to be clicked, Selected Feedback List from right side of Screen View to be removed.

5. Upgrading of Diagnosis Program and Host Program

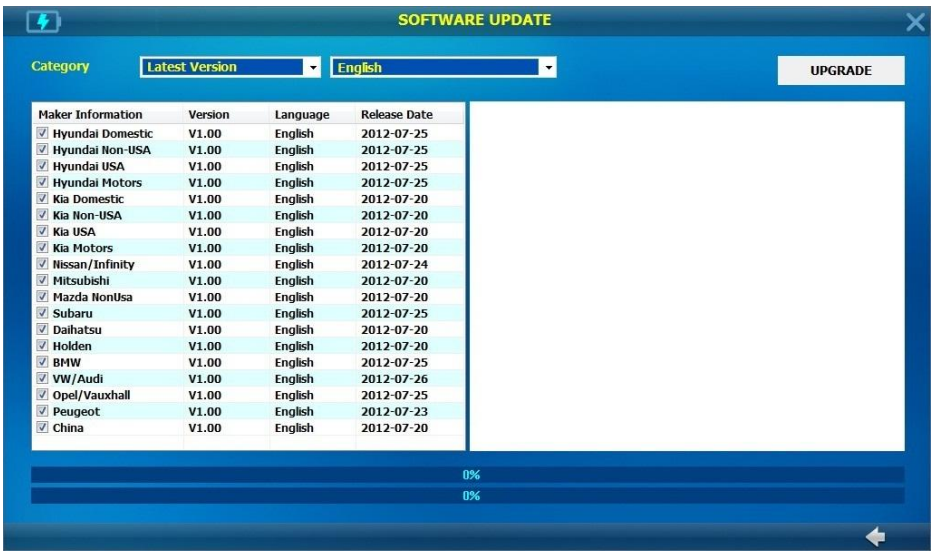
1) Diagonsis Program

Selection of Upgrade Maker(available for Individual and Whole Selection)

Individual Selection shall be recommended If Internet Environment is too slow or non-stable



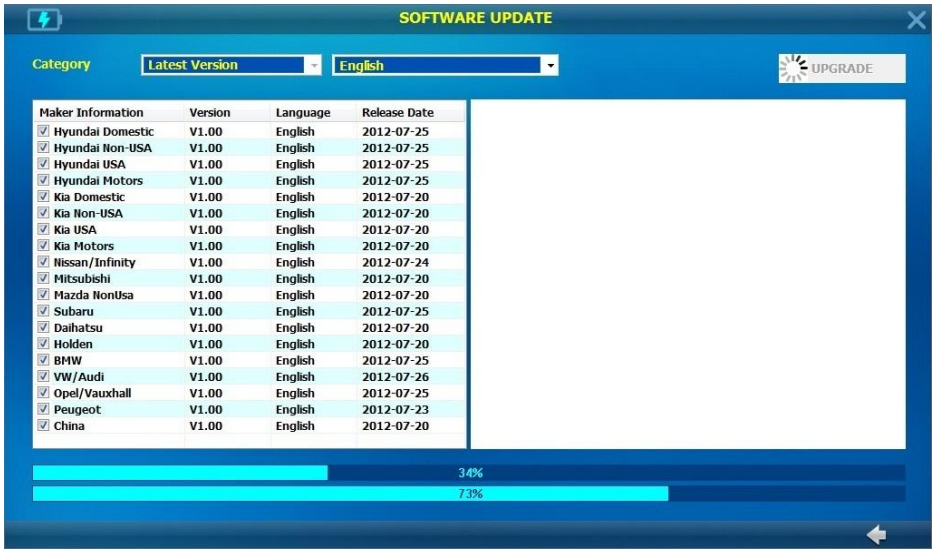
- Click the CONNECT Button after selection of Category



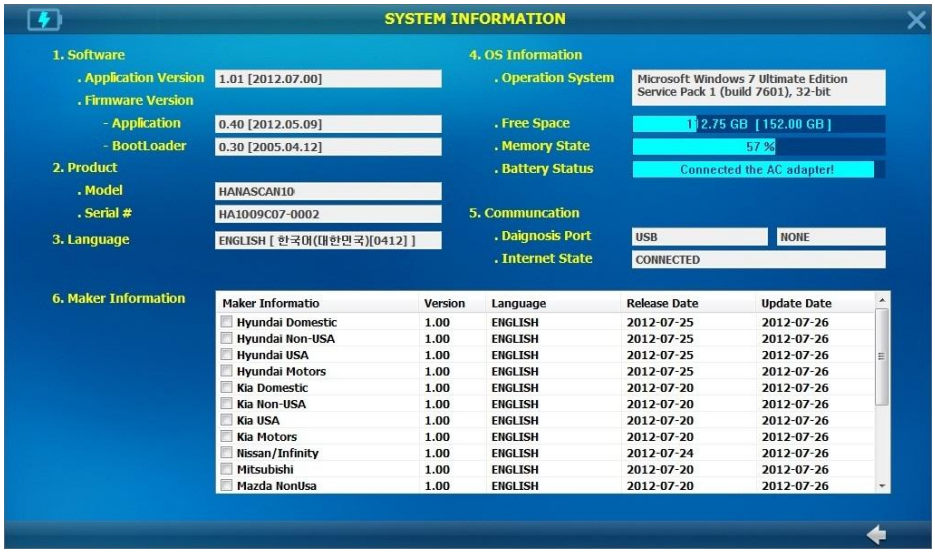
- Whole Program List shall be printed including in purchased Program Kit from

Left View of Screen

- If Upgrading to be needed by each Maker, Selection Box shall be checked automatically.
- Upgrade Maker to be selected by manual after revision of Checked List.
- Click the Button of Upgrade
- In case of Internet access to be collapsed during on processing of Upgrade, Non-completed Program of Upgrade to be restored and to be checked automatically if Process of Upgrade to be executed again.

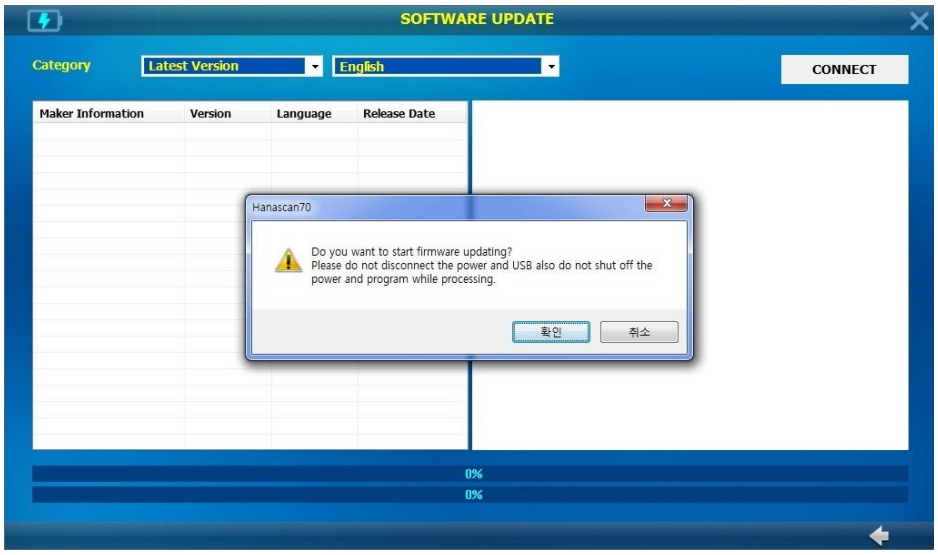


- Identification of Upgrade Information shall be referred to list of system Info.

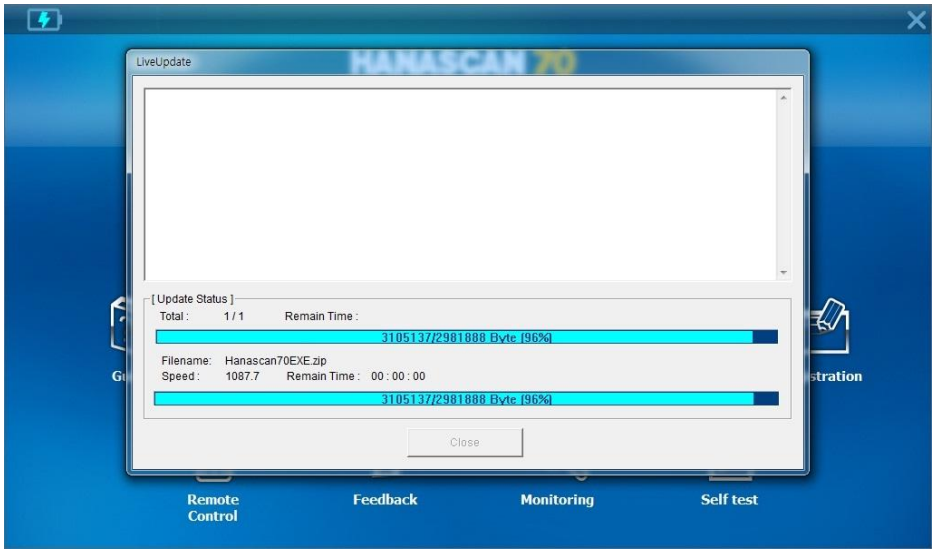


2) Host program/Module F/W program

- Upgrade of Host Program :
- Upgrade automatically to be processed after identification of Upgrade of Host Program to be completed or not during clicking the Icon of Upgrade.
- Upgrade of Module F/W Program :
- Identified Module F/W Upgrade to be completed or not automatically during clicking the CONNECT.



- Screen of Upgrade Process
- Power of Module shall not be separated during on process of Upgrade



6. Self Test

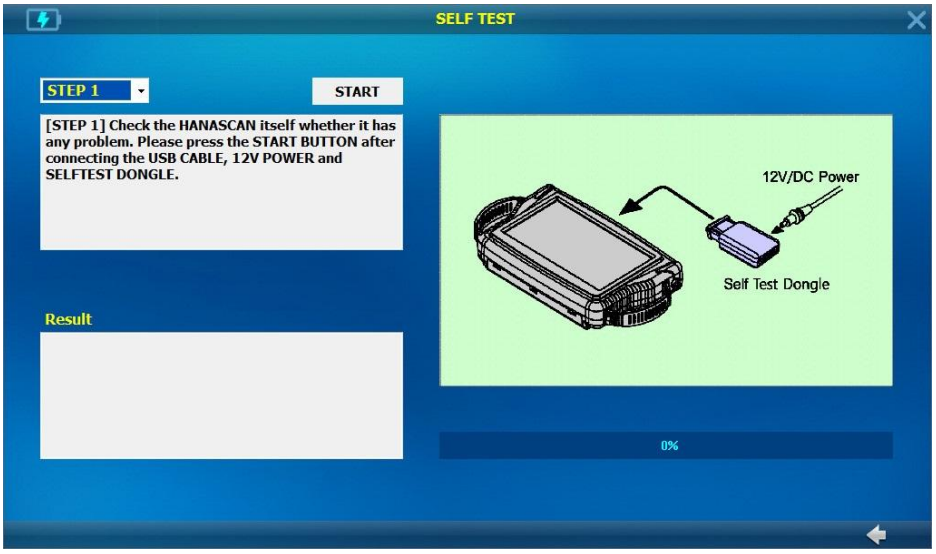
- The Function of Self Test is available for self diagnosis by each part for several list itself if operation shall not be executed after connection of Hanascan by User.
- If the list related each STEP to be caused trouble, shall be required A/S for troubled cable or equipment.

[Caution]

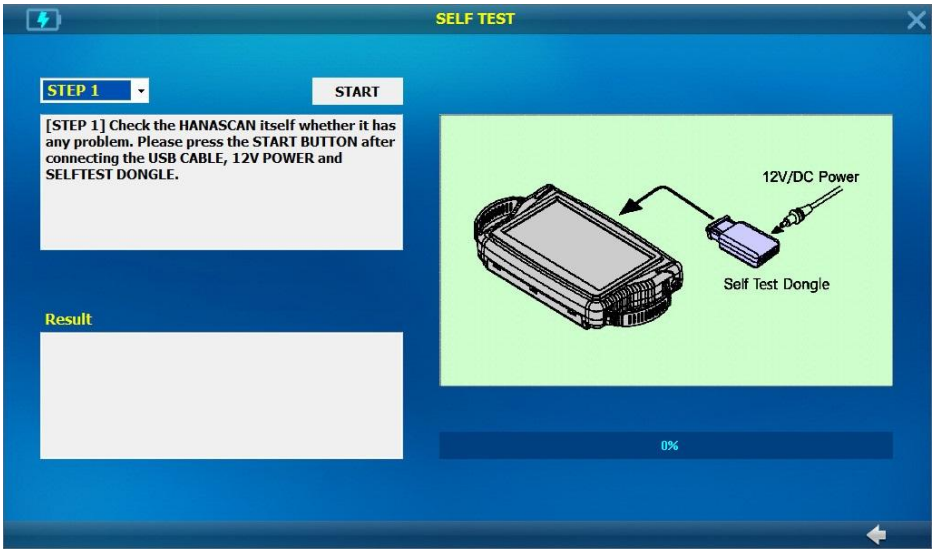
- Make sure to read Explanation and Test to be started after taking a action of Pro-active

1) STEP 1

- STEP 1 shall be checked Connection of USB Cable normally or not between Computer and Hanascan
- Test shall be executed after connection of USB cable and 12V adaptor.
- Test shall be executed Progress Bar over processing if START Button to Be pushed.
- If no trouble after completion of test, SUCCESS shall be indicated and if trouble, FAIL shall be indicated.


SELF TEST
STEP 1
START
[STEP 1] Check the HANASCAN itself whether it has any problem. Please press the START BUTTON after connecting the USB CABLE, 12V POWER and SELFTEST DONGLE.
12V/DC Power
Self Test Dongle
Result
0%

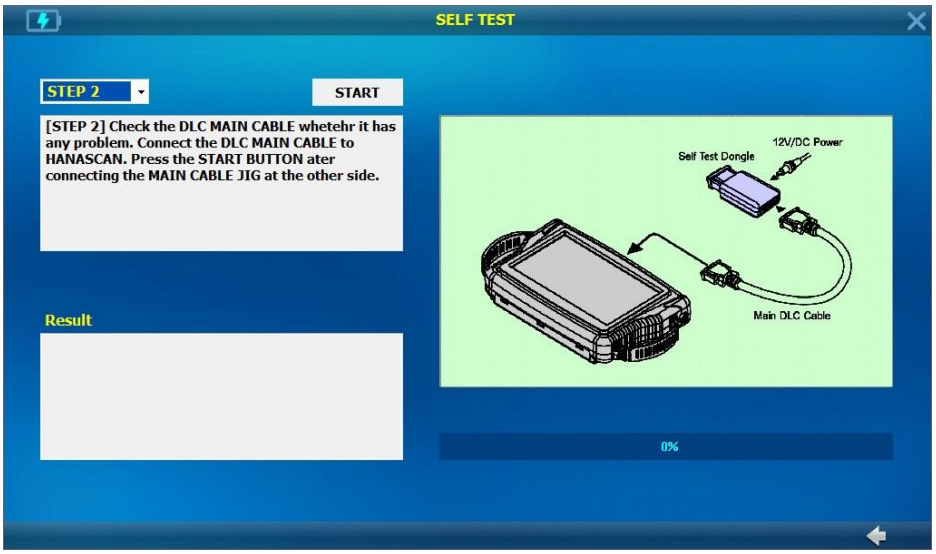
<Screen of STEP1>


SELF TEST
STEP 1
START
[STEP 1] Check the HANASCAN itself whether it has any problem. Please press the START BUTTON after connecting the USB CABLE, 12V POWER and SELFTEST DONGLE.
Result
12V/DC Power
Self Test Dongle
0%

<Successful Screen of STEP1 Test>

2) STEP 2

- STEP2 shall be checked the operation of Hanascan normally.
- Test available only if USB Cable, DLC Cable, Dongle of Self test, 12V Adaptor shall be connected
- If no trouble, SUCCESS shall be indicated and if trouble, FAIL shall be indicated.


SELF TEST
STEP 2
START
[STEP 2] Check the DLC MAIN CABLE whetehr it has any problem. Connect the DLC MAIN CABLE to HANASCAN. Press the START BUTTON ater connecting the MAIN CABLE JIG at the other side.
Result
Self Test Dongle
12V/DC Power
Main DLC Cable
0%

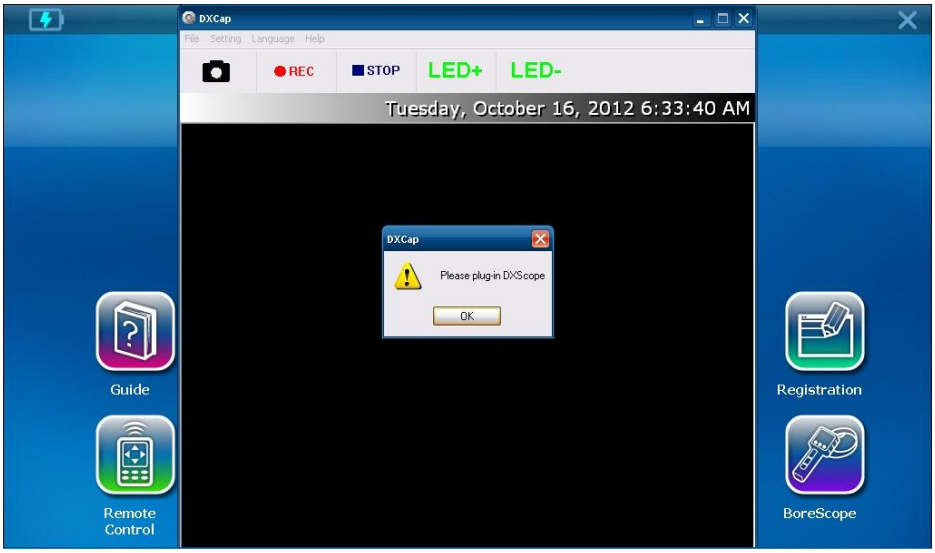
<Successful Screen of STEP2 Test>

7. BoreScope (Optional)

- Borescope must be executed without connecting the probe.

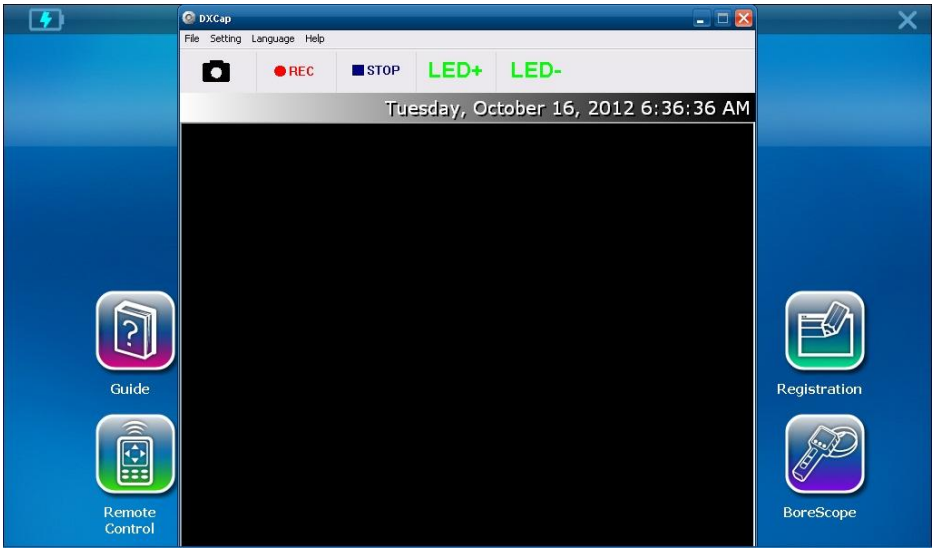
1) Click the Borescope icon (without connecting the probe)

2) Connecting the probe



- Connect the probe after appearing the picture above.

3) How to use the Borescope



- When putting the probe into the location to be viewed, it will be shown with high resolution of video clip.
- In case of too dark, adjust [LED+/ LED−] to bright the screen.

8. Restoration of System

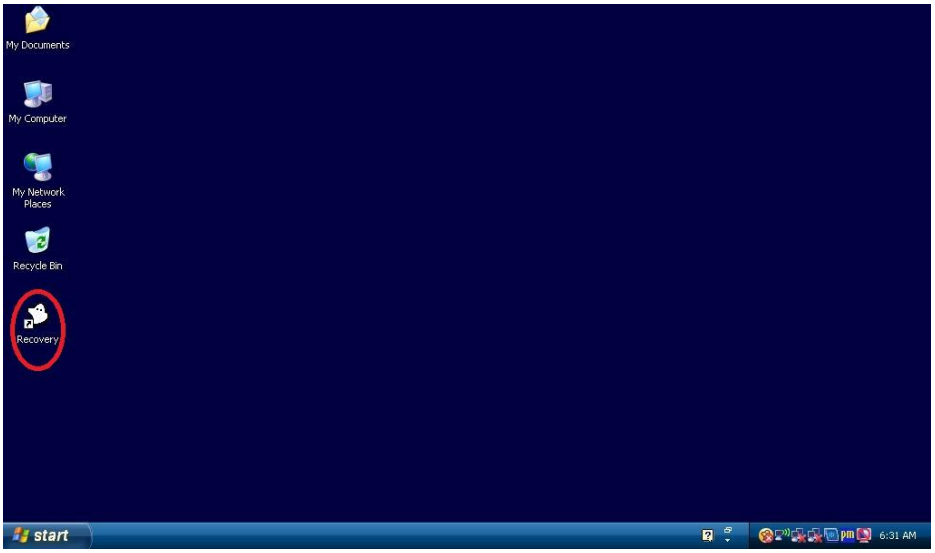
1) Provided 2 kinds of System Restoration as function of supporting for Hanascan 10

2) Caution

- Format, Erase, Write Etc. to be executed, Restoration is not able due to restoration System already to be established at the RECOVERY(D:)

3) First Restoration Method(To be executed at Wallpaper of Window Xp)

- To be executed if Window is Normal
- If click the Icon of Recovery as below screen, re-booted automatically and restored after entry into Restoration mode and then re-booted automatically after completion.

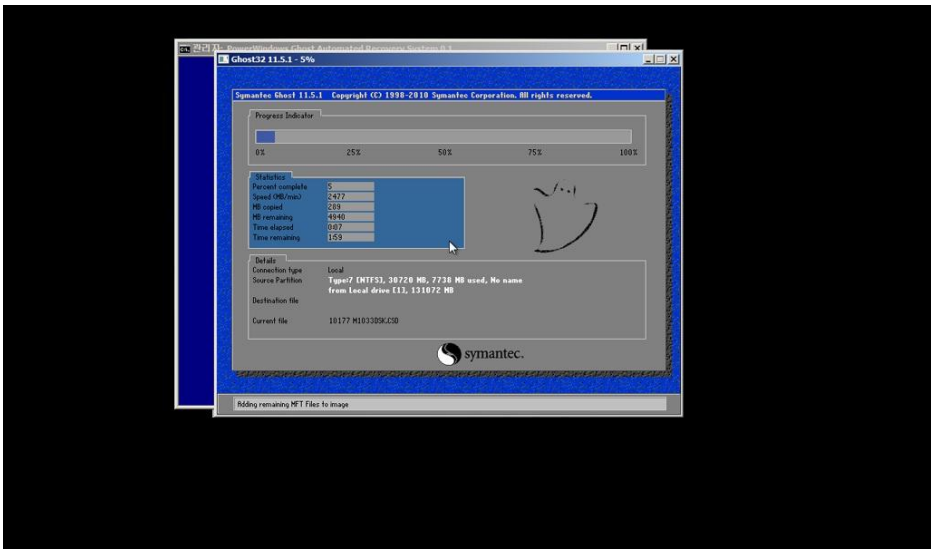


4) Second Restoration Method(To be executed through Recovery Button)

- Use during on Window not to be executed
- Booting Screen to be shown as below, if Recovery Button of Equipment as[Press F12 to start Ghost Recovery] to be pushed, Restoration to be executed after entry into Restoration Mode and then re-booted automatically after completion

5) The Screen of System to be restored

- Restoration to be executed as below screen and re-booted automatically after completion.



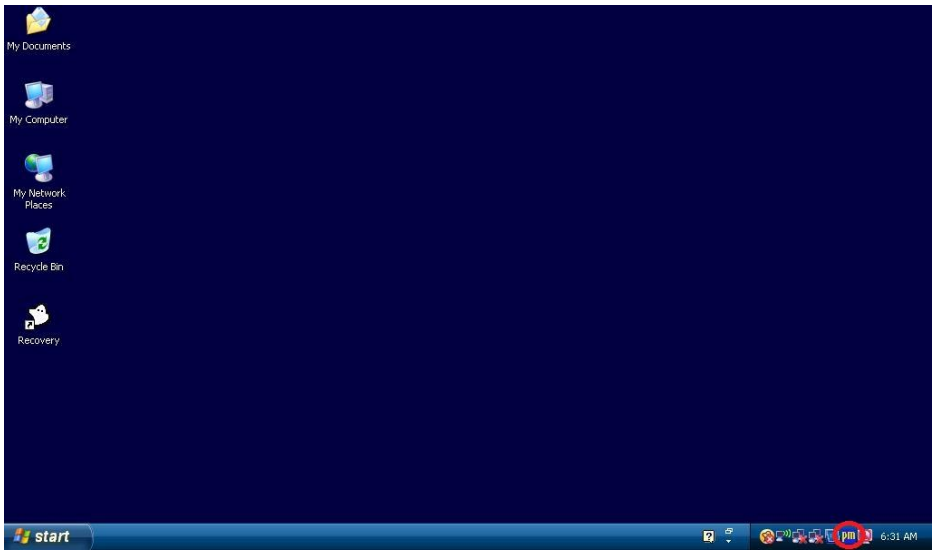
6) Automatic Execution of Touch Pad Establishing Program after re-booting of System Restoration

- If System Restoration to be completed, the Program of Touch Pad Establishing Program shall be executed after re-booting
- If Touch Pad Establishing to be completed, System shall be started again.

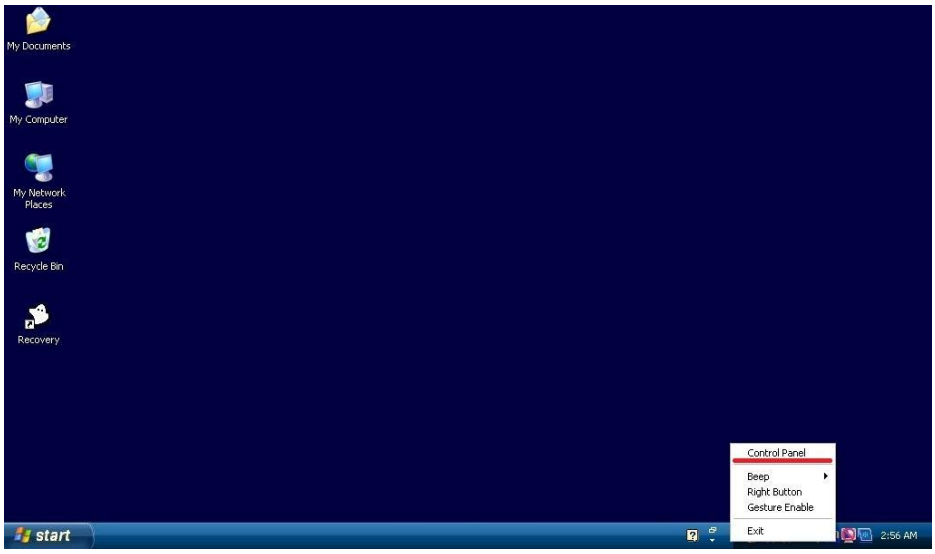
9. Establishing of Touch Pad

1) If Touch Pointer not to be corrected, Pointer shall be re-established according to below procedure.

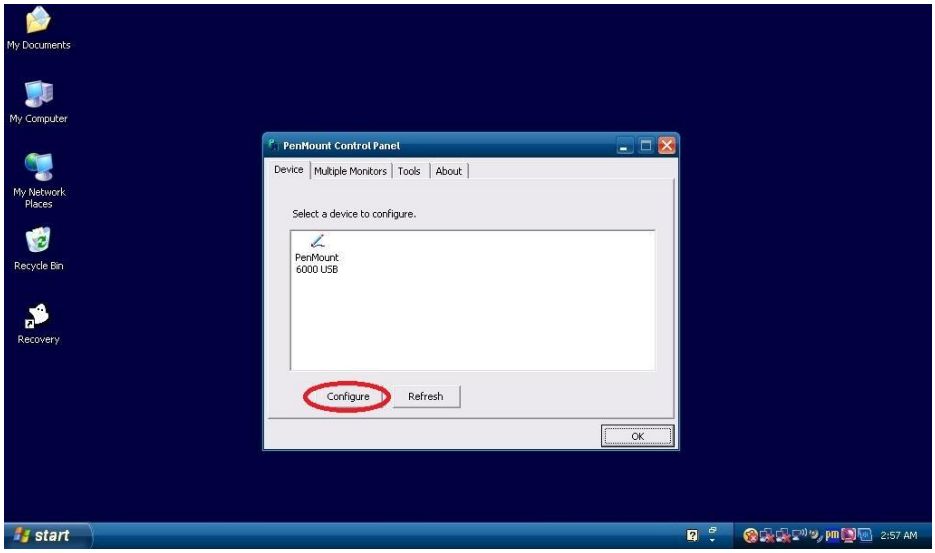
- Execution of Touch Pad Establishing Program(Click the Red Icon with circle at the right side of Bottom)



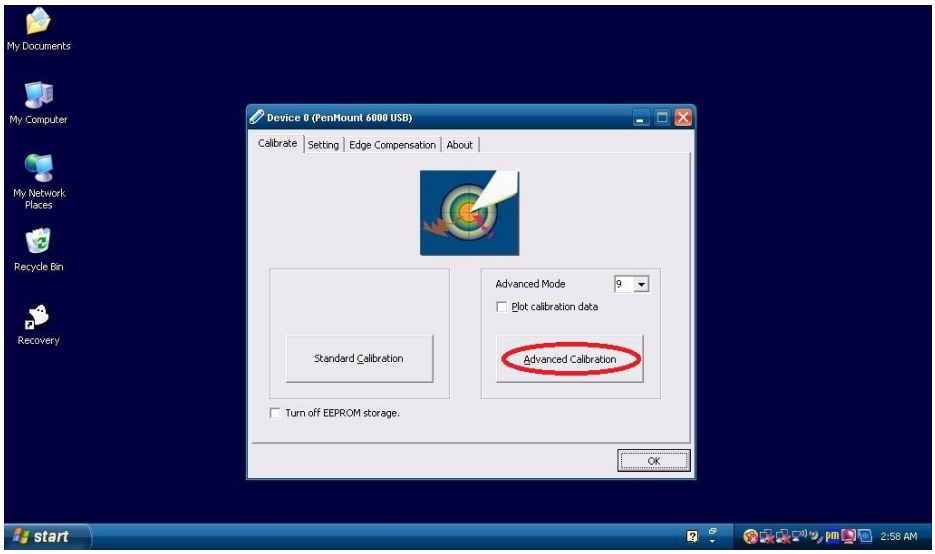
- Selection of Menu[Control Panel] at the Pop-Up Screen



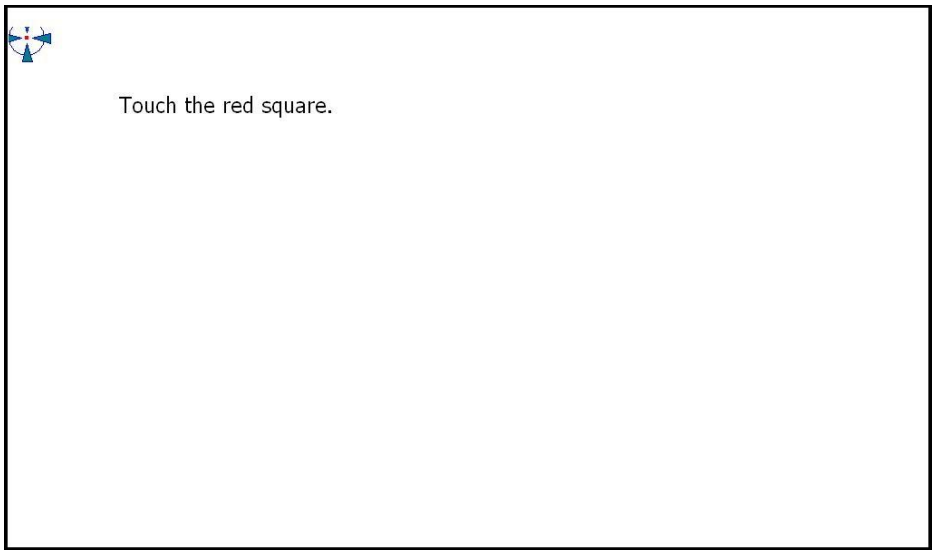
- Selection [Configure]



- Selection[Advanced Calibration] (Tolerance to be caused at the Touch Point if Standard Calibration to be established)



- Establishing to be completed through Pressing and Separation repeatedly at the Marking Point of Screen as instructed



Win Based Automotive Diagnostic System

Hand-Handled Diagnostic Solution
HANASCAN 10

Made in Korea

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